LCM

Model L™ Ultra-High Efficiency Rooftop Units
60 Hz

COMMERCIAL
PRODUCT SPECIFICATIONS

Bulletin No. 210934
April 2021

CORE CONTROL SYSTEM

Humiditrol+

SmartWire™ System

L Connection NETWORK

ENERGY STAR

ASHRAE 90.1 COMPLIANT

13 to 25 Tons
Net Cooling Capacity – 150,000 to 270,000 Btuh
Optional Electric Heat - 15 to 90 kW

MODEL NUMBER IDENTIFICATION

L C M 240 U 4 B N 1 Y

Brand/Family
L = Model L™

Unit Type
C = Packaged Electric Cooling w/ Optional Electric Heat

Major Design Sequence
M = 1st Generation

Nominal Cooling Capacity - Tons
156 = 13 Tons
180= 15 Tons
210 = 17.5 Tons
240 = 20 Tons
300 = 25 Tons

Cooling Efficiency
U = Ultra-High Efficiency

Refrigerant Type
4 = R-410A

Blower Type
M = SZVAV (Single Zone Variable Air Volume), Belt Drive
V = VAV (Variable Air Volume), Belt Drive

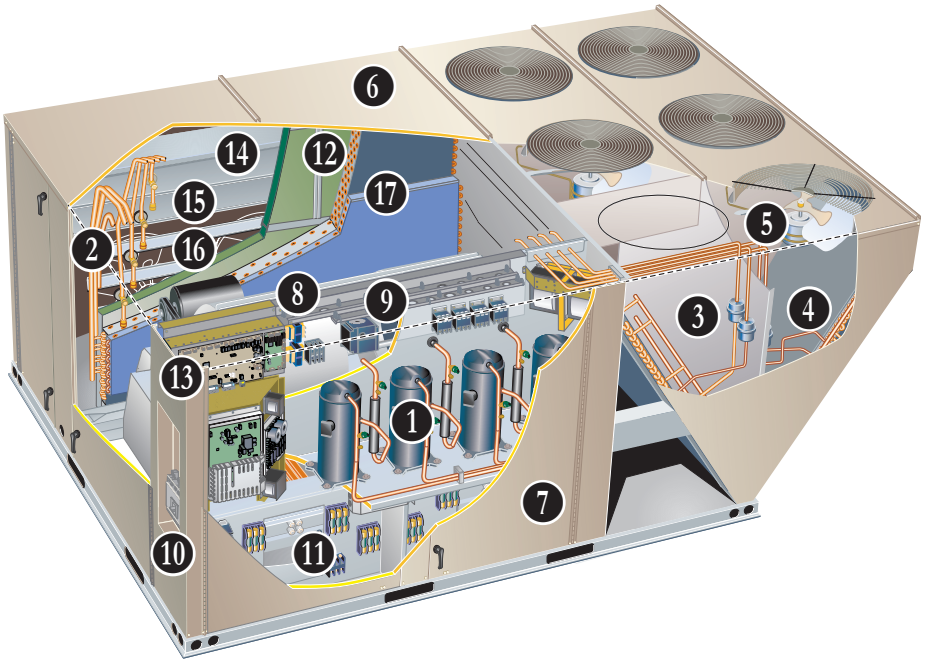
Factory Installed Electric Heat
N = No Heat
E = 15 kW Electric Heat
J = 30 kW Electric Heat
K = 45 kW Electric Heat
L = 60 kW Electric Heat
P = 90 kW Electric Heat

Minor Design Sequence
1 = 1st Revision

Voltage
Y = 208/230V-3 phase-60Hz
G = 460V-3 phase-60Hz

FEATURE HIGHLIGHTS

The Model L™ packaged rooftop line is engineered with advanced variable speed technology to offer some of the highest energy efficiencies in the industry while delivering superior temperature and humidity control in a wide variety of commercial applications.



1. Variable Capacity Scroll Compressor (1) and Fixed Capacity Scroll Compressors (2 or 3)
2. Thermal Expansion Valves
3. Filter/Driers
4. Condenser Coil
5. Variable-Speed ECM Outdoor Coil Fan Motors (4) 156-180 and (6) 210-300
6. Heavy-Gauge Steel Cabinet
7. Hinged Access Panels
8. Supply Air Blower
9. Variable Frequency Drive (VFD)
10. Disconnect Switch (option)
11. Electric Heat (option)
12. Air Filters
13. Lennox® CORE Control System
14. Economizer (option)
15. Downflow Barometric Relief Dampers (option)
16. Power Exhaust Fans (option)
17. Humiditrol™+ Dehumidification System

CONTENTS

APPROVALS AND WARRANTY

APPROVALS

- AHRI Standard 340/360 certified
- ETL and CSA listed
- CSA certified energy ratings
- Unit and components ETL, NEC, and CEC bonded for grounding to meet safety standards for servicing
- All models are ASHRAE 90.1 compliant
- All models meet California Code of Regulations, Title 24 requirements for staged airflow
- ISO 9001 Registered Manufacturing Quality System
- ENERGY STAR® certified

WARRANTY

- Compressors - Limited five years
- Lennox® CORE Unit Controller - Limited three years
- Optional High Performance Economizers - Limited five years
- All other covered components - Limited one year

FEATURES AND BENEFITS

COOLING SYSTEM

- Designed to maximize sensible and latent cooling performance at design conditions
- System can operate from 0°F to 125°F without any additional controls

R-410A Refrigerant
- Non-chlorine based
- Ozone friendly

1 Multiple Compressors
Cooling system consists of one variable capacity scroll compressor and multiple fixed capacity scroll compressors (two for 156-180 models, three for 210-300 models)

Variable Capacity Scroll Compressor
- High performance, reliability and quiet operation
- Operates on a variable frequency determined to vary capacity based on the cooling load required

Fixed Capacity Scroll Compressors
- High performance, reliability and quiet operation
- Resiliently mounted on rubber grommets for quiet operation

DC Inverter Control (for Variable Capacity Compressor)
- Converts AC line voltage into filtered variable DC voltage
- Provides continuous compressor operation, while adjusting the capacity according to discharge air temperature
- Adjusts compressor output in increments as small as 1%
- Prevents frequent changes in capacity and ensures efficient, economical operation
- Power Factor Correction (PFC) circuit monitors the DC bus for high, low and abnormal voltage conditions to protect the compressor
- Two LEDS (red and green) indicate inverter operating status and aid in troubleshooting
- Noise filter reduces unwanted electromagnetic interference (EMI)
- Inverter reactor adds inductance to the line between the inverter and the compressor to limit current rise and protect the compressor

Compressor Crankcase Heaters
- Protects against refrigerant migration that can occur during low ambient operation or during extended off cycles

2 Thermal Expansion Valves
- Ensures optimal performance throughout the application range
- Removable element head

3 Filter/Driers
- High capacity filter/drier protects the system from dirt and moisture

High Pressure Switches
- Protects the compressors from overload conditions such as dirty condenser coils, blocked refrigerant flow, or loss of outdoor fan operation

Low Pressure Switches
- Protects the compressors from low pressure conditions such as low refrigerant charge, or low/no airflow

Diagnostic and Sensor System
- Multiple thermistors continuously monitor the refrigeration system, providing optimum performance and complete circuit protection at all operating conditions

Indoor Coil Freeze Protection
- Protects the evaporator coil from damaging ice build-up due to conditions such as low/no airflow, or low refrigerant charge

FEATURES AND BENEFITS

COOLING SYSTEM (continued)

4 Condenser Coil
- Copper tube construction
- Enhanced rippled-edge aluminum fins
- Flared shoulder tubing connections
- Silver soldered construction

Evaporator Coil
- Copper tube construction
- Enhanced rippled-edge aluminum fins
- Flared shoulder tubing connections
- Silver soldered construction for improved heat transfer
- Factory leak tested
- Cross row circuiting with rifled tubing optimizes both sensible and latent cooling capacity

Anti-Microbial Condensate Drain Pan
- Plastic pan, sloped to meet drainage requirements per ASHRAE 62.1
- Anti-Microbial additive resists growth of mold and mildew on drain pan, which improves indoor air quality and reduces drain line blockage
- Side or bottom drain connections

5 Variable-Speed ECM Outdoor Coil Fan Motors
- Fan speed is directly controlled by the Lennox® CORE Unit Controller
- Thermal overload protected
- Totally enclosed
- Permanently lubricated ball bearings
- Shaft up
- Wire basket mount

Outdoor Coil Fans
- PVC coated fan guards furnished

Required Selections

Cooling Capacity
- Specify nominal cooling capacity

Options/Accessories

Factory or Field Installed

Condensate Drain Trap
- Constructed of PVC (factory or field) or copper (field only)

NOTE - Trap is field installed only; PVC version may be factory ordered to ship with unit.

Drain Pan Overflow Switch
- Monitors condensate level in drain pan
- Shuts down unit if drain becomes clogged

CABINET

6 Construction
- Heavy-gauge steel panels
- Full perimeter heavy-gauge galvanized steel base rail
- Base rails have rigging holes
- Three sides of the base rail have forklift slots
- Raised edges around duct and power entry openings in the bottom of the unit for water protection

Airflow Choice
- Units are shipped in downflow (vertical) configuration

NOTE - Units can be field converted to horizontal air flow with optional Horizontal Return Air Panel Kit and Horizontal Roof Curb.

Power Entry
- Electrical lines can be brought through the unit base or through horizontal access knock-outs

Exterior Panels
- Constructed of heavy-gauge, galvanized steel
- Textured pre-paint with polyurethane finish
- Cyclic salt fog and UV exposure up to 1680 hours per ASTM D5894

Insulation
- Fully insulated with non-hygroscopic fiberglass insulation (conditioned areas)
- Unit base is fully insulated
- Base insulation serves as an air seal to the roof curb, eliminating the need to add a seal during installation

7 Hinged Access Panels
- Filter section
- Blower section
- Heating section
- Compressor/controls section
- Panel seals and quarter-turn latching handles provide a tight air and water seal

Required Selections

Airflow Configuration
- Specify downflow or horizontal

CABINET (continued)

Options/Accessories

Factory Installed

Corrosion Protection
- Completely flexible immersed coating
- Electrodeposited dry film process
- AST ElectroFin E-Coat
- Meets Mil Spec MIL-P-53084, ASTM B117 Standard Method Salt Spray Testing
- Indoor Corrosion Protection:
  - Coated coil
  - Coated reheat coil (Humiditrol™+)
  - Painted blower housing
  - Painted indoor base
- Outdoor Corrosion Protection:
  - Coated coil
  - Painted outdoor base

Field Installed

Combination Coil/Hail Guards
- Heavy gauge steel frame
- Painted to match cabinet
- Expanded metal mesh protects outdoor coil

Horizontal Return Air Panel Kit
- Required for horizontal applications with Horizontal Roof Curb
- Contains panel with return air opening for field replacement of existing unit panel and panel to cover bottom return air opening in unit
- See dimension drawings

BLOWER

A wide selection of supply air blower options are available to meet a variety of airflow requirements

Motor
- Overload protected, equipped with ball bearings
- Belt drive motors are offered on all models and are available in several different sizes to maximize air performance

Motor Efficiency
- All blower motors 5 hp and above meet minimum energy efficiency standards in accordance with the Energy Independence and Security Act (EISA) of 2007

8 Supply Air Blower
- Forward curved blades
- Double inlet
- Blower wheel is statically and dynamically balanced
- Ball bearings
- Adjustable pulley (allows speed change)
- Blower assembly slides out of unit for servicing
- Grease fittings furnished

Supply Static Pressure Transducer (VAV Models Only)
- Sends information to the Lennox® CORE Unit Controller to control VFD blower speed
- Shipped with the unit for remote field installation in the supply duct

Required Selections

Select SZVAV (Single Zone Variable Air Volume) or Variable Air Volume (VAV) Models
- SZVAV (Single Zone Variable Air Volume) modulates the amount of airflow according to cooling demand, heating demand, ventilation demand or smoke alarm
- Variable Air Volume (VAV) modulates the air volume to maintain a constant duct static pressure

9
- Utilizes a Variable Frequency Drive (VFD) to modulate the supply blower airflow
  - VFD alters the frequency and voltage of the power supply to the blower to control blower speed
  - The amount of airflow for each stage can be set according to a parameter in the Lennox® CORE unit controller
  - Unit is shipped from the factory with preset airflows
  - SZVAV can be ordered with or without an Electronic Bypass Control
  - If equipped with the bypass control the SZVAV features manual (default) or automatic electronic bypass control of the VFD
  - In case of a VFD malfunction, a VFD alarm is generated by the Lennox® CORE unit controller
  - VFD can be manually bypassed to continue unit operation at full blower speed or the unit controller can be set to automatically switch to full blower speed if a VFD alarm is generated
  - VFD has an operational range of 0 to 125°F outdoor air ambient temperature
  - Lower operating costs are obtained when the blower is operated on lower speeds

NOTE - Variable Frequency Drive (VFD) is designed to operate on balanced, three-phase power. Operating units on unbalanced three-phase power will reduce the reliability of all electrical components in the unit. Unbalanced power is a result of the power delivery system supplied by the local utility company. Factory-installed inverters are sized to drive blower motors with an equivalent current rating using balanced three-phase power. If unbalanced three-phase power is supplied; the installer must replace the existing factory-installed inverter with an inverter that has a higher current rating to allow for the imbalance. Refer to the installation instructions for additional information and replacement information.

BLOWER (continued)

Ordering Information
- Specify motor horsepower and drive kit number when base unit is ordered

Options/Accessories

Factory Installed

Blower Belt Auto-Tensioner
- Provides proper tension to belt drive blower belt without the need for regular adjustments
- Maintains airflow and proper performance

ELECTRICAL

NOTE - All units include terminal block and fuse block in power entry junction box for single power entry application.

SmartWire™ System
- Keyed and color-coded wiring connectors prevent miswiring
- Wire coloring scheme is standardized across all models
- Each connection is intuitively labeled to make troubleshooting and servicing quick and easy

Electrical Plugs
- Positive connection electrical plugs connect common accessories or maintenance parts for easy removal or installation

Phase/Voltage Detection
- Monitors power supply to ensure phase is correct at unit start-up
- If phase is incorrect, the unit will not start and an alarm code is reported to the unit controller
- Protects unit from being started with incorrect phasing which could lead to issues such as compressors running backwards
- Voltage detection monitors power supply voltage to ensure proper voltage
- If voltage is not correct (over/under voltage conditions) the unit will not start and an alarm code is reported to the unit controller

Required Selections

Voltage Choice
- Specify when ordering base unit

Options/Accessories

Factory Installed

Circuit Breakers
- HACR type
- Overload and short circuit protection
- Factory wired and mounted in the power entry panel
- Current sensitive and temperature activated
- Manual reset

Short-Circuit Current Rating (SCCR)
- Higher short-circuit protection up to 100kA

NOTE - Disconnect Switch not available with higher SCCR option. Short-Circuit Current Rating option not available on field installed electric heat or 90kW electric heat (208/240V) models.

FEATURES AND BENEFITS

ELECTRICAL (continued)

Factory or Field Installed

10 Disconnect Switch
- Accessible outside of unit
- Spring loaded weatherproof cover furnished

11 Electric Heat
- Helix wound nichrome elements
- Individual element limit controls
- Wiring harness
- Unit fuse block
- See Options/Accessories tables for ordering information

GFI Service Outlets (2)
- 115V ground fault circuit interrupter (GFCI) type
- Available non-powered, field-wired or factory-wired and powered

Field Installed

GFI Weatherproof Cover
- Single-gang cover
- Heavy-duty UV-resistant polycarbonate case construction
- Hinged base cover with gasket

INDOOR AIR QUALITY

12 Air Filters
- Disposable 2 inch filters furnished as standard

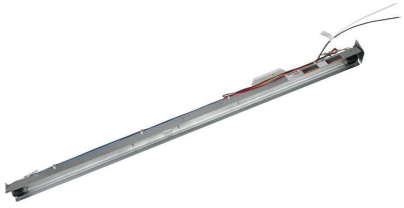
Options/Accessories

Factory or Field Installed

Healthy Climate® High Efficiency Air Filters
- Disposable MERV 8, MERV 13 or MERV 16 (Minimum Efficiency Reporting Value based on ASHRAE 52.2) efficiency 2 inch pleated filters

Replacement Filter Media Kit With Frame
- Replaces existing pleated filter media
- Includes washable metal mesh screen and metal frame with clip for holding replaceable non-pleated filter

Healthy Climate® UVC Germicidal Light Kit



- Germicidal lamps emit ultra-violet (UV-C) energy, which has been proven to be effective in reducing microbes such as viruses, bacteria, yeasts, and molds
- This process either destroys the organism or controls its ability to reproduce
- UV-C energy greatly reduces the growth and proliferation of mold and other bioaerosols (bacteria and viruses) on illuminated surfaces (particularly coil and drain pan)
- Installed in the blower/evaporator coil section
- Safety interlock switch automatically shuts off power to the UVC light when panel is removed
- Interlock switch is factory installed or field installed in the blower/evaporator coil section panel
- All necessary hardware for installation is included
- Lamps operate on 110/230V, 1 phase power supply

NOTE - Step-down transformer may be ordered for field installed UVC lamps when used with 460V rooftop units. Step-down transformer is furnished with lamps when factory installed.

- Approved by ETL

Needlepoint Bipolar Ionization (NPBI) Kit
- NPBI technology integrates with system controls for effective air treatment
- Ionization has been shown to effectively reduce harmful pathogens, pollutants and odors

NOTE - Please visit www.sciencedirect.com for additional information.

- Brush-type ionizer introduces a high concentration of both positive and negative ions into the airstream
- These bipolar ions are then dispersed into the occupied space through the duct system proactively reducing the airborne contaminants
- Ions travel within the building air stream and attach to particles, pathogens, and gas molecules, making them larger and easier to capture in the filtration system
- UL 2998 certified for zero ozone emission

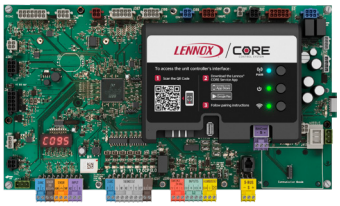
Field Installed

Indoor Air Quality (CO_2) Sensors
- Monitors CO_2 levels, reports to the Lennox® CORE Unit Controller which adjusts Economizer dampers as needed

Replacement Filter Media Kit With Frame
- Replaces existing pleated filter media
- Includes washable metal mesh screen and metal frame with clip for holding replaceable non-pleated filter

CONTROL SYSTEM

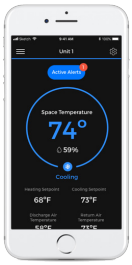
LENNOX® CORE CONTROL SYSTEM



The Lennox® CORE Control System is designed to accelerate equipment install and service. Standard with all Model L™ rooftop units, control system integrates key technologies that lower installation costs, drive system efficiency, and protect your investments.

13 The Lennox® CORE Unit Controller is a microprocessor-based controller that provides flexible control of all unit functions.

Wireless Service App Connectivity (Coming Soon to Android and iOS)



- Setup menu ensures proper installation and simplified setup of the rooftop unit
- Detailed data readout updates sensor values in real time and allows trending
- Unit self-test verifies individual critical component and system performance
- Economizer test function ensures Economizer is operating correctly

NOTE - Android or iOS device required.

Additional Features:

- Built-In 7-Segment Display shows Unit Status and active alarms for easy troubleshooting
- Buttons for test and clearing delays
- SmartWire™ System with keyed and removable screw terminals ensure correct field wiring
- Built-in BACnet MS/TP and IP allow open integration to building management systems.
- Two-port Ethernet Switch enables daisy chaining for BACnet IP and automatic firmware updates

NOTE - Unit Internet Connection required.

- Profile setup copies key settings between units with the same configuration to reduce setup time
- USB port allows a technician to download and transfer unit information to help verify service was performed
- USB software updates on the Lennox® CORE Unit Controller enhance functionality without the need to change components
- Unit Controller Software

Configurable Built-In Functions

- Full modulation of variable speed compressor for discharge air temperature control in room sensor or thermostat mode
- Discharge Air Cooling Control (Standard)
- Up to three distinct Cooling Airflows in Thermostat Mode with additional relay.
- Programmable independent heating, ventilation and cooling blower speeds
- Discharge Air Heating Control
- Economizer Control Options (See Economizer / Exhaust Air / Outdoor Air sections)
- Exhaust Fan Control Modes for fresh air damper position
- Configurable Morning Warm-up
- Night Setback Mode
- Fresh Air Tempering for Improved Ventilation
- Demand Control Ventilation
- Low Ambient Controls for operation down to 0°F
- Humiditrol™+ Operation (Variable Capacity Hot-Gas Reheat)
- Enhanced Dehumidification (Latent Demand Control without reheat)

Component Protection / Unit Safeguards:

- Compressor Time-Off Delay
- Adjustable Blower On/Off Delay
- Return Air Temperature Limit Control
- Safety Switch Input allows Controller to respond to a external safety switch trip
- Service Relay Output
- Thermostat Bounce Delay
- Smoke Alarm Mode has four choices (unit off, positive pressure, negative pressure, purge)
- "Strike Three" Protection
- Gas Valve Time Delay Between First and Second Stage
- Minimum Compressor Run Time

Control Methods / Interfaces:

- DDC and 24V Thermostat
- BACnet MS/TP and IP
- LONTalk (Factory and Field Option)
- Lennox SBUS
- Compatibility with Lennox Wireless Room Sensors
- Zone Temperature Sensor Input
- Dehumidistat and Humidity Sensor Inputs
- Indoor Air Quality Inputs (2)
- Built-in Control Parameter Defaults
- Permanent Diagnostic Code Storage
- Field Adjustable Control Parameters (Over 200 settings)
- Multiple Configurable Digital Inputs
- LED Indicators
- PC Interface connects the Lennox® CORE Unit Controller to a PC with the Lennox Unit Controller Software

NOTE - Lennox® CORE Control System features vary with the type of rooftop unit in which the control is installed.

CONTROL SYSTEM

LENNOX® CORE CONTROL SYSTEM (continued)

Control Options

Factory or Field Installed

Blower Proving Switch
- Monitors blower operation, shuts down unit if blower fails

Dirty Filter Switch
- Senses static pressure increase and issues alarm if necessary

Fresh Air Tempering
- Used in applications with high outside air requirements
- Controller energizes the first stage heat as needed to maintain a minimum supply air temperature for comfort, regardless of the thermostat demand
- When ordered as a factory option, sensor ships with the unit for field installation

Smoke Detector
- Photoelectric type
- Installed in supply air section, return air section or both sections
- Available with power board and single sensor (supply or return) or power board and two sensors (supply and return)
- Power board located in unit control compartment

Interoperability via BACnet® or LonTalk® Protocols
- Communication compatible with third-party automation systems that support the BACnet Application Specific Controller device profile, LonMark® Space Comfort Controller functional profile, or LonMark Discharge Air Controller functional profile

COMMERCIAL CONTROL SYSTEMS

(Field Installed)

L Connection® Network Control System
- Complete building automation control system for single or multi-zone applications
- Options include local interface, software for local or remote communication, and hardware for networking other control functions
- See L Connection Network Control System Product Specifications Bulletin for details

After-Market DDC
- Novar® Unit Controller and options

Thermostats
- Control system and thermostat options, see page 14
- After-Market unit controller options

OPTIONS / ACCESSORIES

ECONOMIZER

- Economizer operation is set and controlled by the Lennox® CORE unit controller
- Simple plug-in connections from Economizer to unit controller for easy installation
- All Model L™ rooftop units are equipped with factory installed CEC Title 24 approved sensors for outside, return and discharge air temperature monitoring

NOTE - Optional sensors may be used instead of unit sensors to determine whether outdoor air is suitable for free cooling. See Options/Accessories table.

Factory or Field Installed

14 High Performance Economizer
- Approved for California Title 24 building standards
- Low leakage dampers are Air Movement and Control Association International (AMCA) Class 1A Certified - Maximum 3 CFM per sq. ft. leakage at 1 in. w.g.
- ASHRAE 90.1 and IECC compliant
- Downflow or Horizontal with Outdoor Air Hood
- Outdoor Air Hood with mist elimination is included when Economizer is factory installed and is furnished with Economizer when ordered for field installation

NOTE - Downflow or horizontal economizer applications require optional Downflow or Horizontal Barometric Relief Dampers with Exhaust Hood.
- Gear-driven action
- High torque 24-volt fully-modulating spring return damper motor
- Return air and outdoor air dampers
- Plug-in connections to unit
- Stainless steel bearings
- Enhanced thermoplastic vulcanizate (TPV) seals
- Flexible stainless steel jamb seals

NOTE - High Performance Economizers are not approved for use with enthalpy controls in Title 24 applications.

NOTE - The Free Cooling setpoint for Title 24 applications must be set based on the Climate Zone where the system is installed. See Section 140.4 "Prescriptive Requirements for Space Conditioning Systems" of the California Energy Commission's 2019 Building Energy Efficiency Standards.

NOTE - Refer to Installation Instructions for complete setup information.

Differential Sensible Control
- Factory setting
- Uses outdoor air and return air sensors that are furnished with the unit
- The Lennox® CORE unit controller compares outdoor air temperature with return air
- When the outdoor air is below the configured setpoint and cooler than return air, the controller activates the Economizer

ECONOMIZER (continued)

Factory or Field Installed (continued)

NOTE - Differential Sensible Control can be configured in the field to provide Offset Differential Sensible Control or Single Sensible Control.

NOTE - In Offset Differential Sensible Control mode, the Economizer is enabled if the temperature differential (offset) between outdoor air and return air reaches the configured setpoint.
In Single Sensible Control mode, the Economizer is enabled when outdoor air temperature falls below the configured setpoint.

Global Control
- The unit controller communicates with a DDC system with one global sensor (enthalpy or sensible)
- Determines whether outside air is suitable for free cooling on all units connected to the control system
- Sensor must be field provided

Single Enthalpy Temperature Control (Not for Title 24)
- Outdoor air enthalpy sensor enables Economizer if the outdoor enthalpy is less than the setpoint of the control

Differential Enthalpy Control (Not for Title 24)
- Order two Single Enthalpy Controls
- One is field installed in the return air section
- One is installed in the outdoor air section
- Allows the Economizer control to select between outdoor air or return air, whichever has lower enthalpy

Field Installed

Outdoor Air CFM Control
- Maintains constant outdoor air volume levels on the supply air fan and varying unit airflows
- Velocity sensor located in the rooftop unit outdoor air section, the Lennox® CORE unit controller changes the Economizer position to help minimize the effect of supply fan speed changes on outdoor air volume levels
- Setpoint for outdoor air volume is established by field testing

NOTE - Not available with Demand Control Ventilation (CO_2 Sensor) or Building Pressure Control.

Building Pressure Control
- Maintains constant building pressure level
- Includes a static pressure transducer and outdoor static pressure assembly
- Using differential pressure information between the outdoor air and the building air, the Lennox® CORE unit controller changes the Economizer position to help maintain a constant building pressure

NOTE - Not available with Demand Control Ventilation (CO_2 Sensor) or Outdoor Air CFM Control.

EXHAUST

Factory or Field Installed

15 Downflow Barometric Relief Dampers
- Allow relief of excess air
- Aluminum blade dampers prevent blow back and outdoor air infiltration during off cycle
- Exhaust hood is factory installed when dampers are factory installed with Economizer
- Exhaust hood is furnished with dampers when ordered for field installation
- Bird screen furnished

16 Power Exhaust Fans
- Install internal to unit for downflow applications only with Economizer option
- Provides exhaust air pressure relief
- Interlocked to run when supply air blower is operating
- Fans run when outdoor air dampers are 50% open (adjustable)
- Motor is overload protected
- Dual propeller type fans are 20 in. diameter
- Five blades
- Two 1/3 hp motors

NOTE - Requires Economizer with furnished Outdoor Air Hood and Downflow Barometric Relief Dampers.

NOTE - SZVAV (Single Zone Variable Air Volume) and VAV (Variable Air Volume) models are equipped with 2-stage power exhaust fans. Power exhaust operates in 1st stage (one fan) up to 70% of supply air blower speed. Both exhaust fans operate in 2nd stage when supply air blower speed is above 70% (adjustable) of full speed.

Field Installed

Horizontal Barometric Relief Dampers
- For use when unit is configured for horizontal applications requiring an Economizer
- Allows relief of excess air
- Aluminum blade dampers prevent blow back and outdoor air infiltration during off cycle
- Field installed in return air duct
- Bird screen and hood furnished

OPTIONS / ACCESSORIES

OUTDOOR AIR OPTIONS

Factory or Field Installed

Outdoor Air Damper
- Downflow or Horizontal
- Linked mechanical dampers
- 0 to 25% (fixed) outdoor air adjustable
- Installs in unit
- Includes outdoor air hood
- Automatic model features fully modulating spring return damper motor with plug-in connection
- Manual model features parallel blade, gear-driven dampers with adjustable fixed position

ROOF CURBS

Field Installed
- Nailer strip furnished (downflow only)
- Mates to unit
- US National Roofing Contractors Approved
- Shipped knocked down

Downflow

Hybrid Roof Curbs
- Interlocking tabs fasten corners together
- No tools required
- Can also be fastened together with furnished hardware
- Available in 8, 14, 18, and 24 inch heights

Adjustable Pitch Curb
- Fully adjustable pitch curbs (3/4 in. per foot in any direction) provide a level platform for rooftop units allowing flexible installations on roofs with uneven or sloped angles
- Interlocking tabs fasten corners together
- No tools required
- Hardware is furnished to connect upper curb with lower curb
- Available in 14 inch height

Horizontal
- Meet National Roofing Code requirements
- Converts unit from downflow to horizontal (side) air flow
- Return air is on unit, supply air is on curb
- See dimension drawings
- Available in 26, 30, 37 and 41 inch heights

NOTE - Requires Horizontal Return Air Panel Kit.

NOTE - Optional Insulation Kit is available to help prevent sweating.

Adaptor Curbs (not shown)
- Curbs are regionally sourced
- Dimensions vary based upon the source

NOTE - Contact your local sales representative for a detailed cut sheet with applicable dimensions.

CEILING DIFFUSERS

Field Installed

Ceiling Diffusers
(Flush or Step-Down)
- White powder coat finish on diffuser face and grilles
- Insulated UL listed duct liner
- Diffuser box has collars for duct connection
- Step-down diffusers have double deflection blades
- Flush diffusers have fixed blades
- Provisions for suspending
- Internally sealed to prevent recirculation
- Removable return air grille
- Adapts to T-bar ceiling grids or plaster ceilings

Transitions (Supply and Return)
- Used with diffusers
- Installs in roof curb
- Galvanized steel construction
- Flanges furnished for duct connection to diffusers
- Fully insulated

HUMIDITROL™+ DEHUMIDIFICATION SYSTEM OPTION

OVERVIEW

- Factory installed option designed to control humidity
- Humiditrol™+ utilizes advanced control algorithms, variable speed technology and a reheat coil to efficiently control humidity levels independent of room temperature
- Provides dehumidification on demand using ASHRAE 90.1 recommended method for comfort conditioning humidity control
- Unit comes equipped with one row reheat coil and solenoid valve

NOTE - A dehumidification demand from a relative humidity sensor, dehumidistat, a DDC controller or building automation system is required to control humidity

BENEFITS

- Improves indoor air quality
- Discharge air control for overcool protection
- Adjustable discharge air temperature setpoint
- Energy efficient dehumidification
- Modulating latent and sensible capacity
- Helps prevents damage due to high humidity levels
- Improves comfort levels by reducing space humidity levels

OPERATION

No Dehumidification Demand

- The unit will operate conventionally whenever there is a demand for cooling or heating and no dehumidification demand
- Free cooling is only permitted when there is no demand for dehumidification

Dehumidification Demand Only

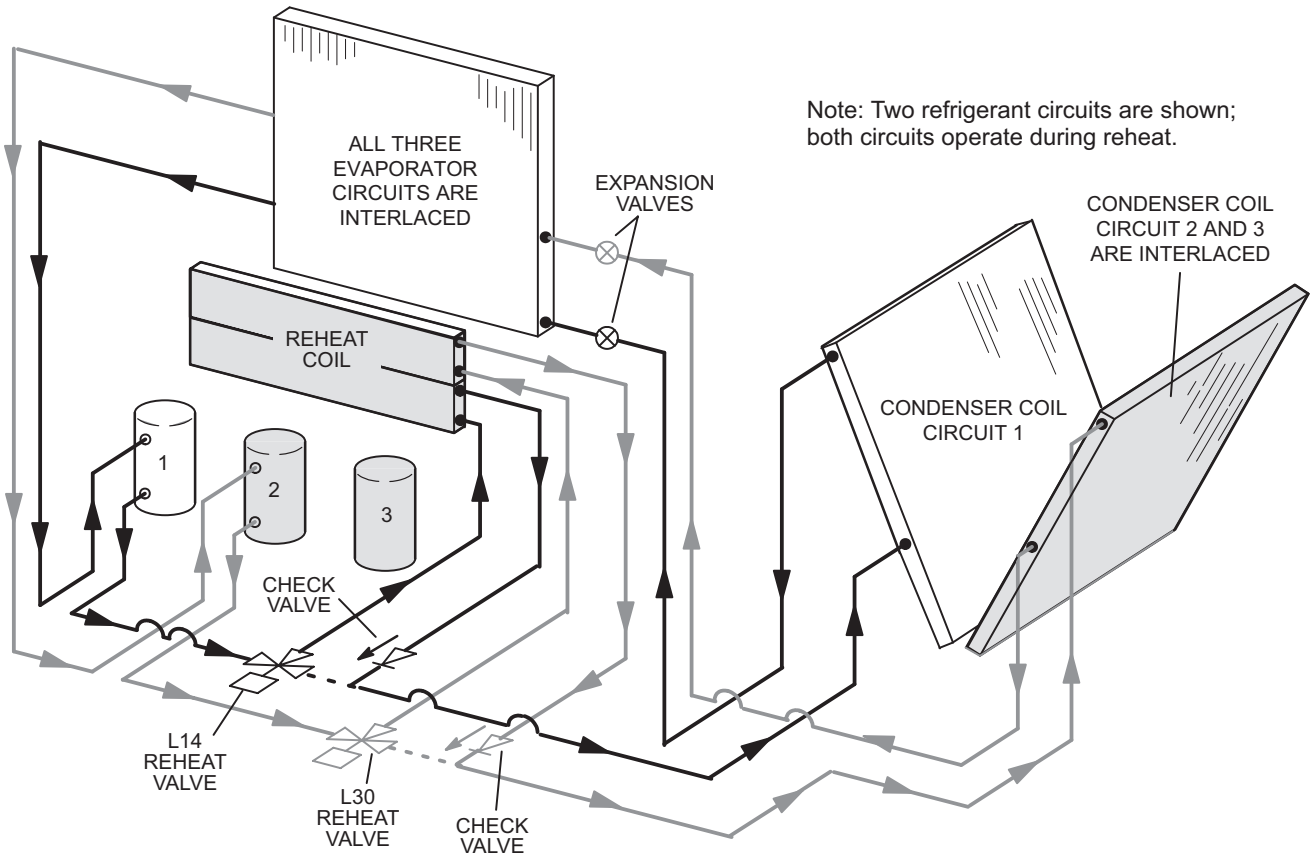
- Reheat operation will initiate on a dehumidification demand and does not require a cooling demand
- The unit will operate in hot gas reheat dehumidification mode until the relative humidity of the conditioned space is below the setpoint
- A solenoid valve diverts hot gas from the compressor to the reheat coil
- The cooled and dehumidified air from the evaporator is reheated as it passes through the reheat coil
- The de-superheated and partially condensed refrigerant continues to the outdoor condenser coil where condensing is completed
- Unit will continue to operate in this mode until the dehumidification demand is satisfied
- The reheat coil is sized to provide optimal reheat performance without overheating supply air
- The compressor will modulate based on dehumidification load

Dehumidification and Cooling Demand (Thermostat/ Room Sensor Application)

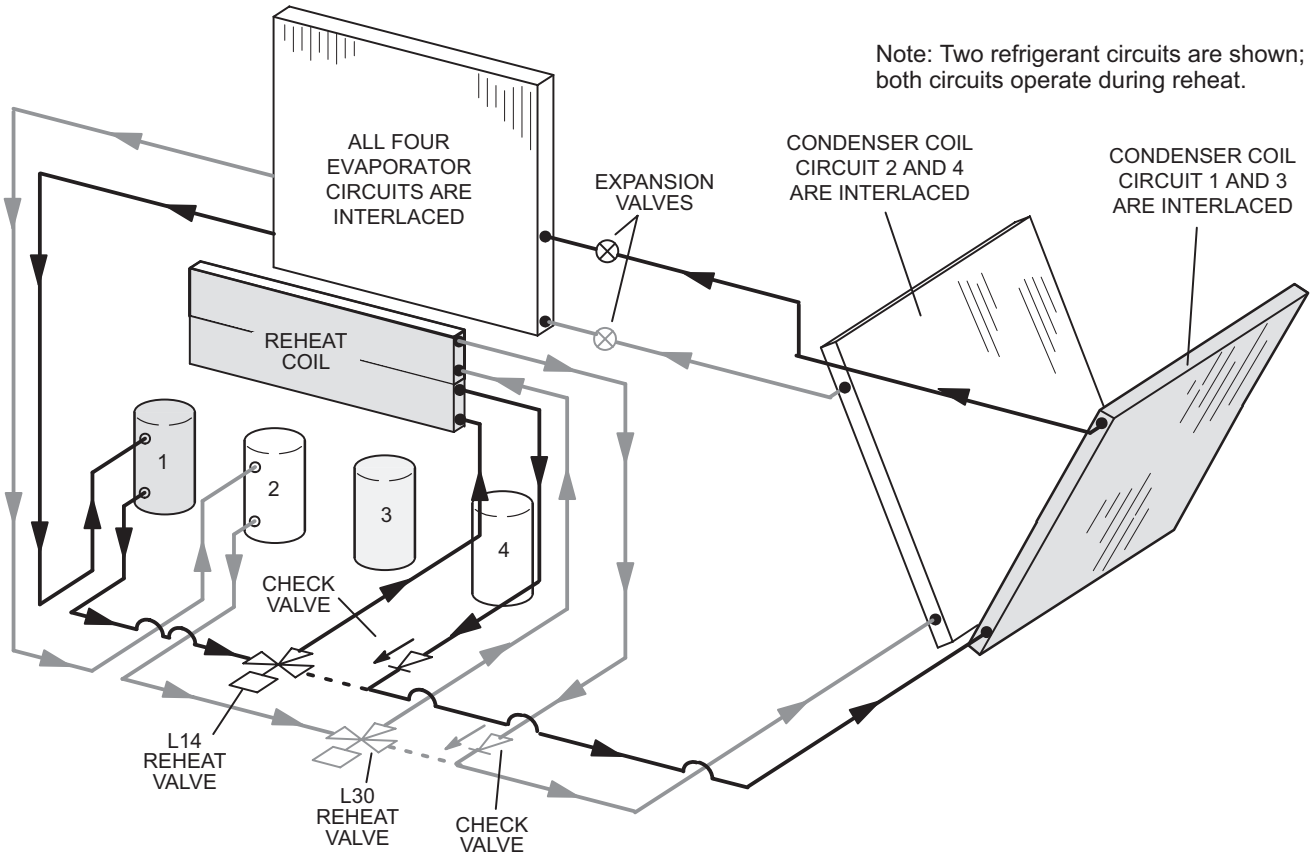
- If both a dehumidification and a cooling demand occur, the system will operate in cooling until the cooling demand is satisfied
- Then the system will energize the dehumidification mode

NOTE - See Sequence of Operation for additional information.

REFRIGERANT SCHEMATIC (156U and 180U MODELS ONLY)

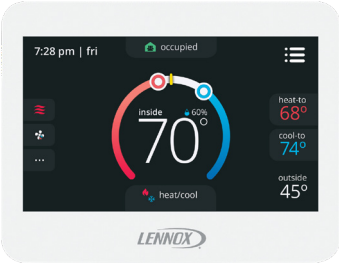


REFRIGERANT SCHEMATIC (210U, 240U and 300U MODELS ONLY)



OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

ComfortSense® 8500 Commercial 7-Day Programmable Thermostat

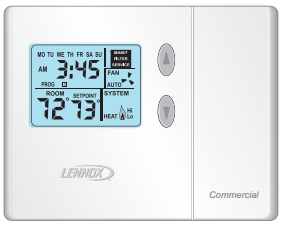


- Fully Communicating Sensor
- Full Color Touchscreen Interface
- Variable Speed System Control (On Compatible Units)
- Up To 4 Heat / 4 Cool
- Built-In Sensors For Temperature, Humidity And Optional CO_2
- Remote Sensor Options For Occupancy, Temperature
- BACnet Capable Options
- 5-2 or 7-Day Scheduling
- Smooth Setback Recovery
- Heat/Cool Auto-Changeover
- Four-Wire Installation
- FDD, ASHRAE, IECC Compliant

ComfortSense® 7500 Commercial 7-Day Programmable Thermostat

- Premium Universal Thermostat
- Full Color Touchscreen Interface
- Up To 4 Heat / 2 Cool
- Built-In Sensors For Temperature and Humidity
- Remote Sensors Options For Temperature, Discharge Air, Outdoor Air
- 5-2 or 7-Day Scheduling
- Smooth Setback Recovery
- Heat/Cool Auto-Changeover
- FDD, ASHRAE, IECC Compliant

ComfortSense® 3000 Commercial 5-2 Day Programmable Thermostat



- Conventional Multi-Stage Thermostat
- Intuitive Display
- Push-Button Operation
- Up To 2 Heat / 2 Cool
- Built-In Temperature Sensor
- Remote Temperature Sensing
- Up to 5-2 Day Scheduling
- Smooth Setback Recovery
- Heat/Cool Auto-changeover

Wireless/Wired Room Sensor (LCS-5030)

- Simple Push-Button Override
- Variable Speed System Control (On Compatible Units)
- Up To 4 Heat / 4 Cool
- Built-In Temperature and Humidity Sensors
- AA Battery / 24VAC Powered
- Bluetooth™ Mesh Operation
- SBUS Wired Operation
- Automatic Sensor Averaging
- Locking Hex Screw

Wireless Repeater

- Extends Effective Range of Wireless Sensor
- 24VAC Only
- Locking Hex Screw

NOTE - Wireless only.

OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

Description		Catalog No.
ComfortSense® 8500 Commercial 7 Day Programmable Thermostat		
CS8500 7-Day Thermostat	No CO_2 Sensing	**17G75**
	With CO_2 Sensing	**17G76**
Sensors/Accessories	[1] Remote non-adjustable wall-mount 10k	**47W37**
	[1] Remote non-adjustable wall-mount 11k	**94L61**
Sysbus Network Cable (Yellow) for ComfortSense 8500 and LCS-5030 Wired Room Sensor		
Twisted pair 100% shielded communication cable, Red and Black 22 AWG, yellow jacket, rated at 75°C, 300V, Plenum rated Insulation - Low smoke PVC, NEC, CMP	500 ft. box	**27M19**
	1000 ft. box	**94L63**
	2500 ft. roll	**68M25**
ComfortSense® 7500 Commercial 7-Day Programmable Thermostat		
CS7500 7-Day Thermostat		**17G74**
Sensors/Accessories	[2] Remote non-adjustable wall-mount 20k	**47W36**
	[2] Remote non-adjustable wall-mount 10k	**47W37**
	Remote non-adjustable discharge air (duct mount)	**19L22**
	Outdoor temperature sensor	**X2658**
ComfortSense® 3000 Commercial 5-2 Day Programmable Thermostat		
CS3000 5-2 Day Thermostat		**11Y05**
Sensors/Accessories	Remote non-adjustable wall mount 10k averaging	**47W37**
	Thermostat wall mounting plate	**X2659**
ComfortSense® Non-Programmable Thermostat		
CS3000 Non-Programmable Thermostat		**51M32**
Universal Thermostat Guard with Lock (clear)		
	Inside Dimensions (H x W) 5 7/8 x 8 3/8 in.	**39P21**
Wireless/Wired Room Sensor		
LCS-5030 Wireless/Wired Room Sensor		**21L07**
	Wireless Repeater for Room Sensor - Temperature and humidity, no display	**21L09**

[1] Up to nine of the same type remote temperature sensors can be connected in parallel.

[2] Remote wall-mount sensors can be applied in any of the following combinations:
One Sensor - (1) 47W36, Two Sensors - (2) 47W37, Three Sensors - (2) 47W36 and (1) 47W37
Four Sensors - (4) 47W36, Five Sensors - (3) 47W36 and (2) 47W37

SEQUENCE OF OPERATION

COOLING

A-Two-Stage Thermostat

1 - Economizer With Outdoor Air Suitable

Y1 Demand

- Compressors Off
- Blower Cooling Low
- Dampers Modulate

NOTE - If dampers are at maximum open for five minutes, blower runs at cooling high.

Y2 Demand

- Compressors Modulate
- Blower Cooling High
- Dampers Maximum Open

2 - No Economizer or Outdoor Air Not Suitable

Y1 Demand

- Compressors Modulate
- Blower Cooling Low
- Dampers Minimum Position

Y2 Demand

- Compressors Modulate
- Blower Cooling High
- Dampers Minimum Position

B-Three-Stage Thermostat

1 - Economizer With Outdoor Air Suitable

Y1 Demand

- Compressors Off
- Blower Cooling Low
- Dampers Modulate

NOTE - If dampers are at maximum open for five minutes, blower runs at cooling intermediate.

Y2 Demand

- Compressors Modulate
- Blower Cooling Intermediate
- Dampers Maximum Open

Y3 Demand

- Compressors Modulate
- Blower Cooling High
- Dampers Maximum Open

COOLING (CONTINUED)

2 - No Economizer or Outdoor Air Not Suitable

Y1 Demand

- Compressors Modulate
- Blower Cooling Low
- Dampers Minimum Position

Y2 Demand

- Compressors Modulate
- Blower Cooling Intermediate
- Dampers Minimum Position

Y3 Demand

- Compressors Modulate
- Blower Cooling High
- Dampers Minimum Position

C - Room Sensor

1 - Economizer With Outdoor Air Suitable

- Compressors Off
- Blower Modulates
- Dampers Modulate

NOTE - If dampers are at maximum open for five minutes, compressors are energized and the blower modulates.

2 - No Economizer or Outdoor Air Not Suitable

- Compressors Modulate
- Blower Modulates
- Dampers Minimum Position

NOTE - Free cooling is locked out when a dehumidification demand is received. The unit operates in dehumidification.

HEATING

Heating Mode: Thermostat or Room Sensor

NOTE - HEATING MODE IS THE SAME FOR ALL CONTROL OPTIONS.

W1 Demand:

- 1st stage electric heat is energized and the supply air blower operates at heating speed

W2 Demand:

- 2nd stage electric heat is energized and the supply air blower operates at heating speed (45, 60 or 90 kW electric heat option only)

SEQUENCE OF OPERATION

HUMIDITROL™+

A - Thermostat Mode With 24V Humidistat

Dehumidification Demand (DI4) and No Cooling Demand

Compressor 1 operates at 100% and reheat valve is energized, blower and outdoor fans modulate to maintain indoor coil and discharge air temperatures, all other compressors are off.

NOTE: After 5 minutes of only a Dehumidification demand (DI4), compressor 2 is turned on and reheat valve in energized.

Y1 and DI4 Demand

Compressors are modulating, blower is on cooling low, and the reheat valves are de-energized.

Y2 and DI4 Demand

Compressors are modulating, blower is on cooling high, and the reheat valves are de-energized.

B - Thermostat Mode With Zone Relative Humidity Sensor

Dehumidification Demand (RH% Setpoint < Zone RH% < RH% Setpoint +2%) and No Cooling Demand

Compressor 1 modulates based on zone relative humidity, blower and outdoor fans modulate to maintain indoor coil and discharge air temperatures, reheat valve is energized. All other compressors are off.

Dehumidification Demand (RH% Setpoint < Zone RH% for 5 minutes or Zone RH% > RH% Setpoint +2%) and No Cooling Demand

Compressor 1 modulates based on zone relative humidity and reheat valve is energized, Compressor 2 is on and reheat valve is energized, blower and outdoor fans modulate to maintain indoor coil and discharge air temperatures. All other compressors are off.

Y1 and Dehumidification Demand

Compressors are modulating, blower is on low, and the reheat valves are de-energized.

Y2 and Dehumidification Demand

Compressors are modulating, blower is on high, reheat valves are de-energized.

C - Room Sensor Mode With 24V Humidistat

Dehumidification Demand (DI4) and No Cooling Demand

Compressor 1 operates at 100%, blower and outdoor fans modulate to maintain indoor coil and discharge air temperatures, reheat valve is energized.

NOTE: After 5 minutes of only a Dehumidification demand (DI4), compressor 2 is turned on and the reheat valve is energized.

Cooling and Dehumidification Demand

Compressors are modulating, blower is modulating, reheat valves are de-energized.

D - Room Sensor Mode With Zone Relative Humidity Sensor

Dehumidification Demand (RH% Setpoint < Zone RH% < RH% Setpoint +2%) and No Cooling Demand

Compressor 1 modulates based on zone relative humidity, blower and outdoor fans modulate to maintain indoor coil and discharge air temperatures, reheat valve is energized. All other compressors are off.

Dehumidification Demand (RH% Setpoint < Zone RH% for 5 minutes or Zone RH% > RH% Setpoint +2%) and No Cooling Demand

Compressor 1 modulates based on zone relative humidity and reheat valve is energized, Compressor 2 is on and reheat valve is energized, blower and outdoor fans modulate to maintain indoor coil and discharge air temperatures. All other compressors are off.

Cooling and Dehumidification Demand

Compressors are modulating, blower is modulating, and the reheat valves are de-energized.

OPTIONS / ACCESSORIES

Item Description		Catalog Number	Unit Model No 156	180	210	240	300
COOLING SYSTEM							
Condensate Drain Trap	PVC	**22H54**	OX	OX	OX	OX	OX
	Copper	**76W27**	X	X	X	X	X
Corrosion Protection		Factory	O	O	O	O	O
Drain Pan Overflow Switch		**21Z07**	OX	OX	OX	OX	OX
Refrigerant Type		R-410A	O	O	O	O	O
Service Valves (not for Humiditrol™+ equipped units)		Factory	O	O	O	O	O
BLOWER - SUPPLY AIR							
Blower Option							
	SZVAV (Single Zone Variable Air Volume) - With VFD Bypass Control	Factory	O	O	O	O	O
	SZVAV (Single Zone Variable Air Volume) - Without VFD Bypass Control	Factory	O	O	O	O	O
	VAV (Variable Air Volume) - Without VFD Bypass Control	Factory	O	O	O	O	O
Motors	Belt Drive (standard efficiency) - 2 hp	Factory	O				
	Belt Drive (standard efficiency) - 3 hp	Factory	O	O	O		
	Belt Drive (standard efficiency) - 5 hp	Factory	O	O	O	O	O
	Belt Drive (standard efficiency) - 7.5 hp	Factory		O	O	O	O
	Belt Drive (standard efficiency) - 10 hp	Factory				O	O
Drive Kits See Blower Data Tables for usage and selection	Kit #1 535-725 rpm	Factory	O	O	O		
	Kit #2 710-965 rpm	Factory	O	O	O		
	Kit #3 685-856 rpm	Factory	O	O	O	O	O
	Kit #4 850-1045 rpm	Factory	O	O	O	O	O
	Kit #5 945-1185 rpm	Factory	O	O	O	O	O
	Kit #6 850-1045 rpm	Factory		O	O	O	O
	Kit #7 945-1185 rpm	Factory		O	O	O	O
	Kit #8 1045-1285 rpm	Factory		O	O	O	O
	Kit #10 1045-1285 rpm	Factory				O	O
	Kit #11 1135-1365 rpm	Factory				O	O
	Blower Belt Auto-Tensioner	Factory	O	O	O	O	O
CABINET							
Combination Coil/Hail Guards		**13T12**	X	X	X	X	X
CONTROLS							
Blower Proving Switch		**21Z10**	OX	OX	OX	OX	OX
Commercial Controls	LonTalk® Module - For Lennox® CORE Control System	**54W27**	OX	OX	OX	OX	OX
	Novar® LSE	Factory	O	O	O	O	O
	L Connection® Building Automation System	- - -	X	X	X	X	X
Dirty Filter Switch		**53W68**	OX	OX	OX	OX	OX
Fresh Air Tempering		**21Z08**	OX	OX	OX	OX	OX
Smoke Detector - Supply or Return (Power board and one sensor)		**83W40**	OX	OX	OX	OX	OX
Smoke Detector - Supply and Return (Power board and two sensors)		**83W41**	OX	OX	OX	OX	OX

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OPTIONS / ACCESSORIES

Item Description		Catalog Number	Unit Model No 156	180	210	240	300
INDOOR AIR QUALITY							
Air Filters							
Healthy Climate® High Efficiency Air Filters 24 x 24 x 2 in.	MERV 8 (Order 6)	**54W67**	OX	OX	OX	OX	OX
	MERV 13 (Order 6)	**52W40**	OX	OX	OX	OX	OX
	MERV 16 (Order 6)	**21U42**	OX	OX	OX	OX	OX
Replacement Media Filter With Metal Mesh Frame 24 x 24 x 2 in. (includes non-pleated filter media)	(Order 6)	**44N61**	X	X	X	X	X
Indoor Air Quality (CO_2) Sensors							
Sensor - Wall-mount, off-white plastic cover with LCD display		**77N39**	X	X	X	X	X
Sensor - Wall-mount, off-white plastic cover, no display		**87N53**	X	X	X	X	X
Sensor - Black plastic case with LCD display, rated for plenum mounting		**87N52**	X	X	X	X	X
Sensor - Wall-mount, black plastic case, no display, rated for plenum mounting		**87N54**	X	X	X	X	X
CO_2 Sensor Duct Mounting Kit - for downflow applications		**85L43**	X	X	X	X	X
Aspiration Box - for duct mounting non-plenum rated CO_2 sensors (**87N53** or **77N39**)		**90N43**	X	X	X	X	X
Needlepoint Bipolar Ionization (NPBI)							
Needlepoint Bipolar Ionization (NPBI) Kit		**21U37**	OX	OX	OX		
		21U38				OX	
		21U39					OX
UVC Germicidal Light Kit							
[1] Healthy Climate® UVC Light Kit (110/230V-1Ph)		**21A94**	OX	OX	OX	OX	OX
Step-Down Transformer	460V primary, 230V secondary	**10H20**	X	X	X	X	X
ELECTRICAL							
Voltage 60 Hz	208/230V - 3 phase	Factory	O	O	O	O	O
	460V - 3 phase	Factory	O	O	O	O	O
HACR Circuit Breakers		Factory	O	O	O	O	O
Disconnect Switch (see Electric Heat Tables for usage)	80 amp	**54W85**	OX	OX	OX	OX	OX
	150 amp	**54W86**	OX	OX	OX	OX	OX
	250 amp	**54W87**	OX	OX	OX	OX	OX
[2] Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection)		Factory	O	O	O	O	O
GFI Service Outlets	15 amp non-powered, field-wired (208/230V, 460V)	**74M70**	OX	OX	OX	OX	OX
	15 amp factory-wired and powered (208/230V, 460V)	Factory	O	O	O	O	O
Weatherproof Cover for GFI		**10C89**	X	X	X	X	X

[1] Lamps operate on 110-230V single-phase power supply. Step-down transformer may be ordered separately for field installation in 460V rooftop units (transformer is furnished for factory installed lamp kit). Alternately, a separate 110V power supply may be used to directly power the UVC ballast(s).

[2] Disconnect Switch not available with higher SCCR option. Short-Circuit Current Rating option not available on field installed electric heat or 90kW electric heat (208/240V) models.

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OPTIONS / ACCESSORIES

Item Description		Catalog Number	Unit Model No 156	180	210	240	300
ELECTRIC HEAT							
15 kW	208/230V-3ph	**22H66**	OX	OX	OX	OX	OX
	460V-3ph	**22H67**	OX	OX	OX	OX	OX
30 kW	208/230V-3ph	**22H68**	OX				
	460V-3ph	**22H69**	OX				
	208/230V-3ph	**22H70**		OX	OX	OX	OX
	460V-3ph	**22H71**		OX	OX	OX	OX
45 kW	208/230V-3ph	**22H72**	OX				
	460V-3ph	**22H73**	OX				
	208/230V-3ph	**22H74**		OX	OX	OX	OX
	460V-3ph	**22H75**		OX	OX	OX	OX
60 kW	208/230V-3ph	**22H76**	OX				
	460V-3ph	**22H77**	OX				
	208/230V-3ph	**22H78**		OX	OX	OX	OX
	460V-3ph	**22H79**		OX	OX	OX	OX
90 kW	208/230V-3ph	**22H80**			OX	OX	OX
	460V-3ph	**22H81**			OX	OX	OX
ECONOMIZER							
High Performance Economizer (Approved for California Title 24 Building Standards / AMCA Class 1A Certified)							
High Performance Economizer Downflow or Horizontal - Includes Outdoor Air Hood. NOTE - Order Downflow or Horizontal Barometric Relief Dampers separately.		**22J18**	OX	OX	OX	OX	OX
Economizer Controls							
Differential Enthalpy (Not for Title 24)	Order 2	**21Z09**	OX	OX	OX	OX	OX
Sensible Control	Sensor is Furnished	Factory	O	O	O	O	O
Single Enthalpy (Not for Title 24)		**21Z09**	OX	OX	OX	OX	OX
Global Control	Sensor Field Provided	Factory	O	O	O	O	O
Building Pressure Control		**13J77**	X	X	X	X	X
Outdoor Air CFM Control		**13J76**	X	X	X	X	X
Barometric Relief Dampers With Exhaust Hood (required with economizer)							
Downflow Barometric Relief Dampers		**54W78**	OX	OX	OX	OX	OX
Horizontal Barometric Relief Dampers		**16K99**	X	X	X	X	X
OUTDOOR AIR							
Outdoor Air Dampers With Outdoor Air Hood							
Motorized		**22J27**	OX	OX	OX	OX	OX
Manual		**13U05**	OX	OX	OX	OX	OX
[1] POWER EXHAUST (DOWNFLOW APPLICATIONS ONLY)							
Standard Static, SCCR Rated	208/230V	**22H90**	OX	OX	OX	OX	OX
	460V	**22H91**	OX	OX	OX	OX	OX
HUMIDITROL™+ HOT GAS REHEAT OPTION - SZVAV MODELS ONLY							
Humiditrol™+ Dehumidification Option		Factory	O	O	O	O	O

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OPTIONS / ACCESSORIES

Item Description		Catalog Number	Unit Model No 156	180	210	240	300
ROOF CURBS							
Hybrid Roof Curbs, Downflow							
8 in. height curb		**11F58**	X	X	X	X	X
14 in. height curb		**11F59**	X	X	X	X	X
18 in. height curb		**11F60**	X	X	X	X	X
24 in. height curb		**11F61**	X	X	X	X	X
Adjustable Pitch Curb							
14 in. height curb		**43W26**	X	X	X	X	X
Standard Roof Curbs, Horizontal - Requires Horizontal Return Air Panel Kit							
26 in. height - slab applications		**11T89**	X	X	X	X	
30 in. height - slab applications		**11T90**					X
37 in. height - rooftop applications		**11T96**	X	X	X	X	
41 in. height - rooftop applications		**11T97**					X
Insulation Kit For Standard Horizontal Roof Curbs							
for 26 in. height curb		**73K32**	X	X	X	X	
for 30 in. height curb		**73K33**					X
for 37 in. height curb		**73K34**	X	X	X	X	
for 41 in. height curb		**73K35**					X
Horizontal Return Air Panel Kit							
Required for Horizontal Applications with Roof Curb		**87M00**	X	X	X	X	X
CEILING DIFFUSERS							
Step-Down - Order one	RTD11-185S	**13K63**	X	X			
	RTD11-275S	**13K64**			X	X	X
Flush - Order one	FD11-185S	**13K58**	X	X			
	FD11-275S	**13K59**			X	X	X
Transitions (Supply and Return) - Order one	C1DIFF33C-1	**12X68**	X	X			
	C1DIFF34C-1	**12X70**			X	X	X

[1] Field installed Power Exhaust requires Economizer with Outdoor Air Hood and Downflow Barometric Relief Dampers with Exhaust Hood. Must be ordered separately.

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SPECIFICATIONS — 13 TON

General Data		**Nominal Tonnage**	**13 Ton**	**13 Ton**
		Model Number	**LCM156U4M**	**LCM156U4V**
		Efficiency Type	**Ultra-High**	**Ultra-High**
		Blower Type	SZVAV (Single Zone Variable Air Volume)	VAV (Variable Air Volume)
Cooling Performance		Gross Cooling Capacity - Btuh	154,000	154,000
		[1] Net Cooling Capacity - Btuh	150,000	150,000
		[1] AHRI Rated Air Flow - cfm	4250	4250
		Total Unit Power - kW	12.3	12.3
		[1] IEER (Btuh/Watt)	19.0	18.5
		[1] EER (Btuh/Watt)	12.2	12.2
Refrigerant Charge		Refrigerant Type	R-410A	R-410A
	Without Reheat	Circuit 1	16 lbs. 12 oz.	16 lbs. 12 oz.
		Circuit 2	9 lbs. 9 oz.	9 lbs. 9 oz.
		Circuit 3	9 lbs. 8 oz.	9 lbs. 8 oz.
	With Reheat	Circuit 1	21 lbs. 3 oz.	- - -
		Circuit 2	12 lbs. 8 oz.	- - -
		Circuit 3	9 lbs. 8 oz.	- - -
Electric Heating Options Available			15-30-45-60 kW	
Compressor Type (number)			Variable Capacity Scroll (1) Fixed Capacity Scroll (2)	
Outdoor Coils		Net face area (total) - sq. ft.	55.2	55.2
		Tube diameter - in.	3/8	3/8
		Number of rows	2	2
		Fins per inch	20	20
Outdoor Coil Fans		Motor - (No.) horsepower	(4) 1/3 ECM	(4) 1/3 ECM
		Motor rpm	450-1075	450-1075
		Total Motor watts	155 - 1150	155 - 1150
		Diameter - (No.) in.	(4) 24	(4) 24
		Number of blades	3	3
		Total Air volume - cfm	16,000	16,000
Indoor Coils		Net face area (total) - sq. ft.	21.40	21.40
		Tube diameter - in.	3/8	3/8
		Number of rows	3	3
		Fins per inch	14	14
		Drain connection - No. and size	(1) 1 in. FPT	(1) 1 in. FPT
		Expansion device type	Balance port TXV, removable head	
[2] **Indoor Blower and Drive Selection**		Nominal motor output	2 hp, 3 hp, 5 hp	
		Max. usable motor output (US)	2.3 hp, 3.45 hp, 5.75 hp	
		Motor - Drive kit number	**2 hp** **Kit 1** 535-725 rpm **Kit 2** 710-965 rpm **3 hp** **Kit 1** 535-725 rpm **Kit 2** 710-965 rpm **5 hp** **Kit 3** - 685-856 rpm **Kit 4** 850-1045 rpm **Kit 5** 945-1185 rpm	
		Blower wheel nominal D x W - in.	(2) 15 x 15 in.	(2) 15 x 15 in.
Filters		Type of filter	Fiberglass, disposable	
		Number and size - in.	(6) 24 x 24 x 2	
Electrical characteristics			208/230V or 460V - 60 hertz - 3 phase	

NOTE - Net capacity includes evaporator blower motor heat deduction. Gross capacity does not include evaporator blower motor heat deduction.

[1] AHRI Certified to AHRI Standard 340/360; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

[2] Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of motors furnished are shown. In Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

NOTE – Blower motor service factor = 1.0.

SPECIFICATIONS — 15 TON | 17.5 TON

General Data		**Nominal Tonnage**	**15 Ton**	**15 Ton**	**17.5 Ton**	**17.5 Ton**
		Model Number	**LCM180U4M**	**LCM180U4V**	**LCM210U4M**	**LCM210U4V**
		Efficiency Type	**Ultra-High**	**Ultra-High**	**Ultra-High**	**Ultra-High**
		Blower Type	SZVAV (Single Zone Variable Air Volume)	VAV (Variable Air Volume)	SZVAV (Single Zone Variable Air Volume)	VAV (Variable Air Volume)
Cooling Performance		Gross Cooling Capacity - Btuh	176,000	176,000	206,000	206,000
		[1] Net Cooling Capacity - Btuh	172,000	172,000	200,000	200,000
		[1] AHRI Rated Air Flow - cfm	5250	5250	5400	5400
		Total Unit Power - kW	14.3	14.3	16.4	16.4
		[1] IEER (Btuh/Watt)	19.0	17.5	18.8	18.0
		[1] EER (Btuh/Watt)	12.0	12.0	12.2	12.2
Refrigerant Charge		Refrigerant Type	R-410A	R-410A	R-410A	R-410A
	Without Reheat	Circuit 1	19 lbs. 14 oz.	19 lbs. 14 oz.	10 lbs. 8 oz.	10 lbs. 8 oz.
		Circuit 2	10 lbs. 15 oz.	10 lbs. 15 oz.	9 lbs. 10 oz.	9 lbs. 10 oz.
		Circuit 3	10 lbs. 6 oz.	10 lbs. 6 oz.	9 lbs. 10 oz.	9 lbs. 10 oz.
		Circuit 4	- - -	- - -	9 lbs. 12 oz.	9 lbs. 12 oz.
	With Reheat	Circuit 1	22 lbs. 2 oz.	- - -	10 lbs. 8 oz.	- - -
		Circuit 2	12 lbs. 6 oz.	- - -	11 lbs. 0 oz.	- - -
		Circuit 3	10 lbs. 6 oz.	- - -	9 lbs. 10 oz.	- - -
		Circuit 4	- - -	- - -	9 lbs. 12 oz.	- - -
Electric Heating Options Available			15-30-45-60 kW		15-30-45-60-90 kW	
Compressor Type (number)			Variable Capacity Scroll (1) Fixed Capacity Scroll (2)		Variable Capacity Scroll (1) Fixed Capacity Scroll (3)	
Outdoor Coils (Fin/Tube)		Net face area (total) - sq. ft.	55.2	55.2	55.2	55.2
		Tube diameter - in.	3/8	3/8	3/8	3/8
		Number of rows	2	2	2	2
		Fins per inch	20	20	20	20
Outdoor Coil Fans		Motor - (No.) horsepower	(4) 1/3 ECM	(4) 1/3 ECM	(6) 1/3 ECM	(6) 1/3 ECM
		Motor rpm	280-1075	280-1075	640-950	640-950
		Total Motor watts	150 -1350	150 -1350	290 -1250	290 -1250
		Diameter - (No.) in.	(4) 24	(4) 24	(6) 24	(6) 24
		Number of blades	3	3	3	3
		Total Air volume - cfm	16,000	16,000	18,600	18,600
Indoor Coils		Net face area (total) - sq. ft.	21.40	21.40	21.40	21.40
		Tube diameter - in.	3/8	3/8	3/8	3/8
		Number of rows	3	3	3	3
		Fins per inch	14	14	14	14
		Drain connection - No. and size	(1) 1 in. FPT	(1) 1 in. FPT	(1) 1 in. FPT	(1) 1 in. FPT
		Expansion device type	Balance port TXV, removable head			
[2] **Indoor Blower and Drive Selection**		Nominal motor output	3 hp, 5 hp, 7.5 hp			
		Max. usable motor output (US)	3.45 hp, 5.75 hp, 8.62 hp			
		Motor - Drive kit number	**3 hp** **Kit 1** 535-725 rpm **Kit 2** 710-965 rpm **5 hp** **Kit 3** 685-856 rpm **Kit 4** 850-1045 rpm **Kit 5** 945-1185 rpm **7.5 hp** **Kit 6** 850-1045 rpm **Kit 7** 945-1185 rpm **Kit 8** 1045-1285 rpm			
		Blower wheel nominal D x W - in.	(2) 15 x 15			
Filters		Type of filter	Fiberglass, disposable			
		Number and size - in.	(6) 24 x 24 x 2			
Electrical characteristics			208/230V or 460V - 60 hertz - 3 phase			

NOTE - Net capacity includes evaporator blower motor heat deduction. Gross capacity does not include evaporator blower motor heat deduction.

[1] AHRI Certified to AHRI Standard 340/360; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

[2] Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of motors furnished are shown. In Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

NOTE – Blower motor service factor = 1.0.

SPECIFICATIONS — 20 TON | 25 TON

General Data		Nominal Tonnage	20 Ton	20 Ton	25 Ton	25 Ton
		Model Number	LCM240U4M	LCM240U4V	LCM300U4M	LCM300U4V
		Efficiency Type	Ultra-High	Ultra-High	Ultra-High	Ultra-High
		Blower Type	SZVAV (Single Zone Variable Air Volume)	VAV (Variable Air Volume)	SZVAV (Single Zone Variable Air Volume)	VAV (Variable Air Volume)
Cooling Performance	Gross Cooling Capacity - Btuh		235,000	235,000	277,000	277,000
	[1] Net Cooling Capacity - Btuh		228,000	228,000	270,000	270,000
	[1] AHRI Rated Air Flow - cfm		6000	6000	7400	7400
	Total Unit Power - kW		19.0	19.0	19.0	19.0
	[1] IEER (Btuh/Watt)		18.4	17.5	17.5	16.5
	[1] EER (Btuh/Watt)		12.0	12.0	10.6	10.6
Refrigerant Charge	Refrigerant Type		R-410A	R-410A	R-410A	R-410A
	Without Humiditrol™+	Circuit 1	12 lbs. 2 oz.	12 lbs. 2 oz.	12 lbs. 8 oz.	12 lbs. 8 oz.
		Circuit 2	12 lbs. 7 oz.	12 lbs. 7 oz.	11 lbs. 8 oz.	11 lbs. 8 oz.
		Circuit 3	12 lbs. 0 oz.	12 lbs. 0 oz.	14 lbs. 8 oz.	14 lbs. 8 oz.
		Circuit 4	12 lbs. 10 oz.	12 lbs. 10 oz.	11 lbs. 8 oz.	11 lbs. 8 oz.
	With Humiditrol™+	Circuit 1	13 lbs. 4 oz.	- - -	17 lbs. 2 oz.	- - -
		Circuit 2	13 lbs. 12 oz.	- - -	17 lbs. 5 oz.	- - -
		Circuit 3	12 lbs. 0 oz.	- - -	14 lbs. 8 oz.	- - -
		Circuit 4	12 lbs. 10 oz.	- - -	11 lbs. 8 oz.	- - -
Electric Heat Options Available			15-30-45-60-90 kW			
Compressor Type (number)			Variable Capacity Scroll (1) Fixed Capacity Scroll (3)			
Outdoor Coils (Fin/Tube)	Net face area (total) - sq. ft.		55.2	55.2	55.2	55.2
	Tube diameter - in.		3/8	3/8	3/8	3/8
	Number of rows		2	2	3	3
	Fins per inch		20	20	20	20
Outdoor Coil Fans	Motor - (No.) horsepower		(6) 1/3 ECM	(6) 1/3 ECM	(6) 1/3 ECM	(6) 1/3 ECM
	Motor rpm		450 - 950	450 - 950	515 - 1000	515 - 1000
	Total Motor watts		130 -1530	130 -1530	180 - 1730	180 - 1730
	Diameter - (No.) in.		(6) 24	(6) 24	(6) 24	(6) 24
	Number of blades		3	3	3	3
	Total Air volume - cfm		18,000	18,000	18,300	18,300
Indoor Coils	Net face area (total) - sq. ft.		21.40	21.40	21.40	21.40
	Tube diameter - in.		3/8	3/8	3/8	3/8
	Number of rows		4	4	4	4
	Fins per inch		14	14	14	14
	Drain connection - No. and size		(1) 1 in. FPT	(1) 1 in. FPT	(1) 1 in. FPT	(1) 1 in. FPT
	Expansion device type		Balance port TXV, removable head			
[2] **Indoor Blower and Drive Selection**	Nominal motor output		5 hp, 7.5 hp, 10 hp			
	Max. usable motor output (US)		5.75 hp, 8.62 hp, 11.5 hp			
	Motor - Drive kit number		**5 hp** **Kit 3** 685-856 rpm **Kit 4** 850-1045 rpm **Kit 5** 945-1185 rpm **7.5 hp** **Kit 6** 850-1045 rpm **Kit 7** 945-1185 rpm **Kit 8** 1045-1285 rpm **10 hp** **Kit 7** 945-1185 rpm **Kit 10** 1045-1285 rpm Kit **11** 1135-1365 rpm			
	Blower wheel nominal D x W - in.		(2) 15 x 15			
Filters	Type of filter		Fiberglass, disposable			
	Number and size - in.		(6) 24 x 24 x 2			
Electrical characteristics			208/230V or 460V - 60 hertz - 3 phase			

NOTE - Net capacity includes evaporator blower motor heat deduction. Gross capacity does not include evaporator blower motor heat deduction.

[1] AHRI Certified to AHRI Standard 340/360; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

[2] Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of motors furnished are shown. In Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

NOTE – Blower motor service factor = 1.0.

COOLING RATINGS

NOTE − For Temperatures and Capacities not shown in tables, see bulletin − Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

13 TON - LCM156U4M/V (ONE COMPRESSOR OPERATING)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	1200	33.6	0.91	0.83	0.97	1	32.3	1.09	0.85	0.98	1	31.1	1.28	0.87	0.98	1	30	1.51	0.88	0.99	1
	1500	35.2	0.91	0.89	0.99	1	34	1.08	0.91	1	1	32.7	1.28	0.93	1	1	31.5	1.51	0.94	1	1
	1800	36.7	0.9	0.93	1	1	35.4	1.08	0.94	1	1	34.1	1.29	0.95	1	1	32.9	1.52	0.96	1	1
67°F	1200	35.1	0.91	0.53	0.77	0.95	33.8	1.08	0.54	0.79	0.96	32.5	1.28	0.55	0.82	0.97	31.2	1.51	0.56	0.84	0.98
	1500	36.6	0.9	0.57	0.84	0.98	35.2	1.08	0.58	0.87	0.99	33.8	1.28	0.59	0.89	0.99	32.5	1.52	0.61	0.92	1
	1800	37.7	0.9	0.6	0.91	1	36.2	1.08	0.61	0.93	1	34.8	1.29	0.63	0.94	1	33.4	1.52	0.65	0.95	1
71°F	1200	36.8	0.9	0.24	0.48	0.72	35.4	1.08	0.23	0.49	0.74	34	1.29	0.23	0.51	0.76	32.7	1.52	0.24	0.52	0.79
	1500	38.2	0.9	0.23	0.52	0.79	36.7	1.08	0.23	0.54	0.82	35.4	1.29	0.24	0.55	0.84	33.9	1.52	0.24	0.57	0.88
	1800	39.4	0.89	0.24	0.57	0.86	37.8	1.08	0.24	0.58	0.89	36.3	1.29	0.25	0.6	0.92	34.9	1.52	0.26	0.62	0.93

NOTE - Compressor operating at maximum capacity.

13 TON - LCM156U4M/V (TWO COMPRESSORS OPERATING)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	3120	113.8	5.18	0.72	0.84	0.96	110.4	5.76	0.73	0.86	0.97	105.4	6.6	0.74	0.88	0.98	100	7.51	0.76	0.9	0.99
	3900	119.2	5.18	0.76	0.9	0.99	115.6	5.78	0.77	0.92	1	110.6	6.62	0.79	0.94	1	105.8	7.51	0.8	0.95	1
	4680	124.2	5.19	0.8	0.95	1	120.6	5.79	0.81	0.97	1	115.3	6.64	0.83	0.98	1	110.5	7.53	0.85	0.99	1
67°F	3120	119.8	5.18	0.58	0.7	0.81	116.3	5.78	0.58	0.71	0.82	111	6.63	0.59	0.72	0.84	106	7.55	0.6	0.74	0.86
	3900	126.5	5.18	0.6	0.74	0.87	122.5	5.8	0.61	0.75	0.89	116.7	6.66	0.62	0.77	0.91	110.8	7.08	0.63	0.78	0.93
	4680	130.1	5.19	0.62	0.77	0.92	126.9	5.81	0.63	0.79	0.94	120.9	6.66	0.64	0.81	0.96	114.7	7.6	0.66	0.83	0.97
71°F	3120	124.9	5.19	0.44	0.56	0.68	120.8	5.85	0.45	0.57	0.68	116.1	6.66	0.45	0.58	0.7	110.9	7.58	0.45	0.59	0.71
	3900	132.1	5.19	0.44	0.59	0.71	127.5	5.87	0.45	0.59	0.73	122.2	6.68	0.45	0.61	0.74	116.6	7.61	0.46	0.62	0.76
	4680	137.5	5.19	0.46	0.61	0.75	132.4	5.88	0.46	0.62	0.76	126.7	6.7	0.47	0.63	0.79	120.7	7.62	0.46	0.65	0.81

NOTE - Compressors operating at maximum capacity.

13 TON - LCM156U4M/V (THREE COMPRESSORS OPERATING)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4160	155.2	8.72	0.72	0.84	0.95	144.8	9.9	0.72	0.85	0.97	133.7	11.22	0.73	0.87	0.99	122.3	12.69	0.75	0.89	1
	5200	164.5	8.75	0.77	0.9	1	153.3	9.93	0.78	0.92	1	141.3	11.25	0.79	0.95	1	129.5	12.71	0.81	0.97	1
	6240	171.3	8.77	0.81	0.96	1	160.1	9.95	0.83	0.98	1	148.4	11.28	0.85	0.99	1	136.7	12.73	0.87	1	1
67°F	4160	163.2	8.75	0.56	0.69	0.81	152	9.92	0.56	0.7	0.82	140.3	11.25	0.55	0.72	0.84	128.7	12.71	0.55	0.72	0.86
	5200	172.1	8.77	0.59	0.74	0.87	160.8	9.95	0.61	0.75	0.89	148.9	11.28	0.6	0.77	0.92	136.3	12.73	0.61	0.79	0.95
	6240	179.4	8.79	0.63	0.79	0.93	167.5	9.97	0.64	0.8	0.96	154.8	11.3	0.63	0.82	0.98	141.7	12.75	0.64	0.85	0.99
71°F	4160	174	8.78	0.42	0.55	0.67	162.3	9.96	0.41	0.55	0.68	150.2	11.28	0.4	0.55	0.69	137.8	12.74	0.38	0.54	0.71
	5200	183.2	8.8	0.43	0.59	0.73	170.8	9.98	0.42	0.59	0.74	158.1	11.31	0.41	0.6	0.75	144.6	12.75	0.4	0.6	0.77
	6240	189.8	8.81	0.45	0.62	0.78	177	9.99	0.44	0.62	0.79	163.6	11.32	0.43	0.63	0.81	149.6	12.77	0.45	0.64	0.83

NOTE - Compressors operating at maximum capacity.

COOLING RATINGS

NOTE − For Temperatures and Capacities not shown in tables, see bulletin − Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

15 TON - LCM180U4M/V (ONE COMPRESSOR OPERATING)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	1600	36.1	1.02	0.9	1	1	33.8	1.22	0.91	1	1	31.7	1.44	0.93	1	1	29.6	1.69	0.95	1	1
	2000	38.1	1.01	0.98	1	1	35.8	1.22	1	1	1	33.7	1.44	1	1	1	31.4	1.7	1	1	1
	2400	39.8	1.01	1	1	1	37.5	1.22	1	1	1	35.2	1.45	1	1	1	32.9	1.71	1	1	1
67°F	1600	37.9	1.01	0.57	0.86	1	35.5	1.22	0.57	0.87	1	33.1	1.44	0.56	0.89	1	30.9	1.7	0.55	0.91	1
	2000	39.4	1.01	0.62	0.94	1	36.9	1.22	0.62	0.96	1	34.5	1.45	0.62	0.98	1	32	1.7	0.63	1	1
	2400	40.5	1.01	0.67	1	1	38	1.22	0.67	1	1	35.5	1.45	0.69	1	1	33.1	1.71	0.69	1	1
71°F	1600	40.1	1.01	0.25	0.54	0.81	37.6	1.22	0.22	0.54	0.83	35.2	1.45	0.2	0.54	0.84	32.8	1.7	0.18	0.54	0.87
	2000	41.5	1.01	0.26	0.59	0.9	39	1.22	0.24	0.6	0.92	36.5	1.45	0.22	0.6	0.94	34	1.71	0.19	0.61	0.97
	2400	42.7	1.01	0.27	0.65	0.98	40	1.22	0.25	0.66	1	37.4	1.45	0.24	0.67	1	34.9	1.72	0.22	0.68	1

NOTE - Compressor operating at maximum capacity.

15 TON - LCM180U4M/V (TWO COMPRESSORS OPERATING)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	3600	133.7	5.69	0.72	0.85	0.96	127.1	6.4	0.73	0.86	0.97	120.2	7.24	0.73	0.87	0.98	112.1	8.16	0.74	0.89	0.99
	4500	140.7	5.71	0.76	0.9	0.99	133.6	6.44	0.77	0.92	1	126.5	7.28	0.78	0.94	1	118.9	8.21	0.79	0.95	1
	5400	146.5	5.73	0.8	0.95	1	139.5	6.46	0.81	0.97	1	132.1	7.31	0.83	0.98	1	124.6	8.25	0.84	0.99	1
67°F	3600	141.4	5.72	0.58	0.7	0.82	134.7	6.44	0.58	0.71	0.83	127.6	7.28	0.58	0.71	0.84	120	8.22	0.58	0.72	0.86
	4500	149.4	5.74	0.61	0.74	0.87	142.2	6.48	0.61	0.75	0.89	134.4	7.32	0.61	0.76	0.91	126.3	8.27	0.62	0.77	0.93
	5400	155.1	5.76	0.63	0.78	0.93	147.5	6.5	0.63	0.8	0.94	139.4	7.35	0.64	0.81	0.96	130.9	8.3	0.64	0.82	0.98
71°F	3600	148.7	5.74	0.45	0.56	0.68	141.6	6.47	0.44	0.57	0.69	134.2	7.32	0.44	0.57	0.7	126.5	8.27	0.44	0.57	0.71
	4500	157	5.77	0.46	0.6	0.72	149.6	6.51	0.46	0.6	0.73	141.8	7.36	0.45	0.6	0.74	133.4	8.31	0.45	0.61	0.75
	5400	163.3	5.78	0.47	0.62	0.76	155.4	6.53	0.46	0.63	0.78	147.1	7.39	0.46	0.63	0.79	138.4	8.34	0.46	0.64	0.81

NOTE - Compressors operating at maximum capacity.

15 TON - LCM180U4M/V (THREE COMPRESSORS OPERATING)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4800	178.2	10.21	0.71	0.84	0.95	167.4	11.49	0.72	0.85	0.97	156.1	12.93	0.74	0.87	0.99	143.8	14.51	0.75	0.9	1
	6000	188.3	10.26	0.77	0.9	1	176.5	11.55	0.78	0.92	1	164.2	12.99	0.8	0.95	1	151.6	14.58	0.81	0.97	1
	7200	195.4	10.31	0.81	0.96	1	183.6	11.6	0.83	0.98	1	171.5	13.05	0.85	0.99	1	159.2	14.64	0.87	1	1
67°F	4800	187.1	10.27	0.56	0.69	0.81	175.2	11.55	0.56	0.71	0.83	163.2	12.98	0.56	0.72	0.84	150.8	14.57	0.56	0.73	0.87
	6000	196.3	10.32	0.6	0.76	0.87	184.4	11.61	0.61	0.76	0.89	172.1	13.05	0.61	0.77	0.92	159	14.64	0.62	0.79	0.94
	7200	204.1	10.36	0.63	0.79	0.93	191.6	11.66	0.64	0.8	0.95	178.6	13.1	0.64	0.82	0.98	164.7	14.69	0.67	0.85	0.99
71°F	4800	198.8	10.33	0.42	0.55	0.67	186.7	11.63	0.41	0.55	0.68	173.8	13.06	0.4	0.56	0.69	160.7	14.66	0.4	0.56	0.71
	6000	208.4	10.38	0.43	0.59	0.73	195.5	11.68	0.43	0.59	0.74	182.1	13.12	0.42	0.6	0.76	168.2	14.73	0.42	0.6	0.78
	7200	215.4	10.42	0.45	0.62	0.78	202.1	11.72	0.45	0.62	0.79	187.9	13.17	0.44	0.64	0.81	173.1	14.77	0.46	0.66	0.83

NOTE - Compressors operating at maximum capacity.

COOLING RATINGS

NOTE − For Temperatures and Capacities not shown in tables, see bulletin − Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

17.5 TON - LCM210U4M/V (ONE COMPRESSOR OPERATING)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	1600	46.1	1.13	0.81	0.96	1	43.8	1.27	0.82	0.96	1	41.4	1.45	0.83	0.97	1	38.9	1.66	0.85	0.98	1
	2000	48.1	1.13	0.87	0.98	1	45.8	1.27	0.89	0.99	1	43.4	1.45	0.9	1	1	41	1.66	0.91	1	1
	2400	49.9	1.14	0.91	1	1	47.6	1.28	0.92	1	1	45.1	1.45	0.93	1	1	42.7	1.65	0.94	1	1
67°F	1600	48.3	1.13	0.52	0.76	0.94	45.9	1.27	0.51	0.78	0.95	43.4	1.45	0.51	0.79	0.95	40.8	1.66	0.51	0.81	0.97
	2000	50.2	1.14	0.55	0.83	0.97	47.6	1.28	0.55	0.85	0.98	45	1.45	0.56	0.87	0.99	42.4	1.66	0.57	0.9	0.99
	2400	51.5	1.14	0.59	0.89	0.99	48.9	1.28	0.59	0.91	1	46.2	1.45	0.61	0.92	1	43.4	1.65	0.62	0.93	1
71°F	1600	50.6	1.14	0.22	0.48	0.72	48.1	1.28	0.21	0.48	0.73	45.6	1.45	0.2	0.48	0.74	43	1.66	0.19	0.48	0.76
	2000	52.4	1.14	0.23	0.52	0.79	49.9	1.28	0.22	0.52	0.81	47.2	1.45	0.2	0.53	0.82	44.5	1.65	0.2	0.54	0.85
	2400	53.7	1.15	0.23	0.56	0.86	51.1	1.28	0.22	0.57	0.88	48.3	1.45	0.22	0.58	0.9	45.6	1.65	0.21	0.6	0.91

NOTE - Compressor operating at maximum capacity.

17.5 TON - LCM210U4M/V (TWO COMPRESSORS OPERATING)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	2800	96.9	3.27	0.73	0.86	0.98	92.1	3.73	0.73	0.88	0.99	87.1	4.26	0.74	0.89	1	82.2	4.85	0.75	0.91	1
	3500	102.4	3.27	0.77	0.93	1	97.2	3.74	0.78	0.94	1	92.1	4.27	0.79	0.96	1	87.1	4.86	0.81	0.98	1
	4200	107.3	3.25	0.82	0.97	1	101.9	3.74	0.83	0.99	1	96.6	4.28	0.85	0.99	1	91.3	4.88	0.86	1	1
67°F	2800	102.5	3.27	0.56	0.71	0.83	97.4	3.74	0.56	0.72	0.85	92.6	4.23	0.58	0.72	0.86	86.9	4.87	0.57	0.73	0.88
	3500	108.1	3.27	0.59	0.75	0.89	102.4	3.75	0.6	0.76	0.91	97.3	4.24	0.6	0.78	0.93	91.1	4.88	0.61	0.79	0.95
	4200	111.8	3.28	0.62	0.8	0.95	106	3.76	0.63	0.81	0.97	100.8	4.25	0.64	0.82	0.98	94.5	4.88	0.65	0.84	0.99
71°F	2800	108	3.24	0.44	0.56	0.69	102.4	3.75	0.42	0.57	0.68	97.6	4.24	0.41	0.55	0.7	91.9	4.86	0.4	0.56	0.7
	3500	113.9	3.25	0.42	0.58	0.73	108	3.76	0.42	0.59	0.74	102.7	4.25	0.42	0.6	0.75	97	4.87	0.42	0.6	0.77
	4200	118.3	3.26	0.44	0.62	0.78	112.1	3.76	0.44	0.62	0.79	106.5	4.26	0.44	0.63	0.8	99.9	4.88	0.44	0.64	0.82

NOTE - Compressors operating at maximum capacity.

17.5 TON - LCM210U4M/V (THREE COMPRESSORS OPERATING)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4200	164	6.17	0.71	0.83	0.94	156.1	6.95	0.71	0.84	0.95	147.8	7.82	0.72	0.85	0.97	139.2	8.85	0.73	0.87	0.99
	5250	172.6	6.21	0.74	0.89	1	164.3	6.98	0.77	0.9	1	155.6	7.85	0.78	0.92	1	146.6	8.85	0.79	0.94	1
	6300	179.5	6.23	0.8	0.94	1	171	6.97	0.81	0.95	1	161.9	7.84	0.83	0.97	1	152.5	8.86	0.83	0.99	1
67°F	4200	172.7	6.21	0.56	0.68	0.81	164.3	6.97	0.56	0.69	0.81	155.4	7.85	0.54	0.7	0.82	146.5	8.83	0.55	0.71	0.84
	5250	181	6.22	0.59	0.73	0.86	171.9	6.99	0.58	0.74	0.87	162.3	7.88	0.59	0.75	0.89	153	8.86	0.6	0.76	0.91
	6300	186.5	6.27	0.61	0.77	0.91	177.3	7.02	0.61	0.78	0.93	167.4	7.89	0.61	0.81	0.95	157.3	8.9	0.62	0.82	0.97
71°F	4200	183.1	6.26	0.41	0.54	0.66	174.4	7.01	0.41	0.54	0.67	165	7.89	0.4	0.53	0.68	155.3	8.9	0.39	0.55	0.69
	5250	191.1	6.29	0.42	0.56	0.7	181.8	7.03	0.41	0.57	0.71	171.8	7.91	0.41	0.57	0.74	161.6	8.92	0.41	0.59	0.75
	6300	196.9	6.31	0.42	0.6	0.76	187.4	7.03	0.42	0.61	0.76	176.9	7.92	0.42	0.61	0.78	166.1	8.91	0.41	0.61	0.81

NOTE - Compressors operating at maximum capacity.

17.5 TON - LCM210U4M/V (FOUR COMPRESSORS OPERATING)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	5600	211.7	11.57	0.73	0.83	0.94	199.6	13.07	0.73	0.85	0.96	186.7	14.79	0.74	0.87	0.98	173.3	16.71	0.74	0.89	0.99
	7000	223.8	11.61	0.75	0.89	1	210.7	13.12	0.76	0.91	1	197.2	14.84	0.78	0.93	1	183.3	16.76	0.81	0.96	1
	8400	233.2	11.65	0.8	0.95	1	219.7	13.16	0.82	0.97	1	205.9	14.87	0.84	0.99	1	191.6	16.79	0.86	1	1
67°F	5600	221.9	11.61	0.56	0.71	0.8	208.8	13.12	0.55	0.71	0.82	194.8	14.84	0.57	0.73	0.84	180.7	16.75	0.57	0.73	0.86
	7000	232.6	11.65	0.59	0.75	0.87	218.8	13.16	0.6	0.76	0.88	204.5	14.87	0.61	0.77	0.9	189.7	16.78	0.63	0.78	0.93
	8400	241.1	11.68	0.62	0.77	0.92	226.7	13.19	0.63	0.79	0.94	212	14.9	0.65	0.82	0.97	196.5	16.8	0.67	0.84	0.99
71°F	5600	236.8	11.67	0.41	0.55	0.69	223	13.19	0.4	0.55	0.69	208.7	14.9	0.39	0.55	0.7	192.9	16.8	0.4	0.57	0.71
	7000	247.4	11.71	0.43	0.59	0.73	232.6	13.22	0.42	0.59	0.74	216.9	14.93	0.44	0.61	0.74	200	16.83	0.45	0.63	0.76
	8400	254.7	11.74	0.45	0.62	0.76	239.1	13.25	0.46	0.63	0.78	222.6	14.95	0.48	0.65	0.8	206	16.84	0.47	0.67	0.82

NOTE - Compressors operating at maximum capacity.

COOLING RATINGS

NOTE − For Temperatures and Capacities not shown in tables, see bulletin − Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

20 TON - LCM240U4M/V (ONE COMPRESSOR OPERATING)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	1600	51.6	1.76	0.8	0.93	0.99	49.4	1.98	0.8	0.93	0.99	46.6	2.28	0.8	0.94	0.99	43.5	2.63	0.81	0.95	1
	2000	54.4	1.75	0.84	0.95	1	51.9	1.97	0.85	0.96	1	49	2.28	0.85	0.96	1	45.9	2.63	0.86	0.97	1
	2400	56.5	1.74	0.87	0.97	1	54	1.97	0.88	0.98	1	51.1	2.28	0.88	0.99	1	47.9	2.64	0.89	0.99	1
67°F	1600	54.5	1.75	0.52	0.74	0.9	52	1.97	0.51	0.75	0.9	49.2	2.28	0.5	0.75	0.91	46.1	2.63	0.49	0.76	0.92
	2000	57.3	1.73	0.54	0.8	0.93	54.7	1.97	0.53	0.81	0.94	51.6	2.28	0.53	0.82	0.95	48.3	2.64	0.53	0.83	0.95
	2400	59.3	1.72	0.57	0.84	0.96	56.6	1.97	0.57	0.85	0.96	53.4	2.28	0.56	0.86	0.97	50	2.64	0.57	0.87	0.98
71°F	1600	57.5	1.73	0.24	0.47	0.69	54.9	1.97	0.22	0.47	0.69	52	2.28	0.2	0.46	0.7	48.8	2.64	0.18	0.45	0.71
	2000	60.3	1.72	0.24	0.5	0.74	57.6	1.96	0.22	0.5	0.75	54.5	2.28	0.2	0.5	0.77	51.1	2.64	0.18	0.49	0.78
	2400	62.5	1.71	0.24	0.53	0.8	59.5	1.96	0.22	0.53	0.81	56.3	2.28	0.21	0.53	0.83	52.8	2.64	0.19	0.54	0.84

NOTE - Compressor operating at maximum capacity.

20 TON - LCM240U4M/V (TWO COMPRESSORS OPERATING)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	3200	113.6	4.19	0.74	0.87	0.96	107.7	4.73	0.73	0.88	0.97	101.3	5.36	0.75	0.9	0.98	94.7	6.06	0.76	0.91	0.99
	4000	119	4.21	0.79	0.92	1	112.7	4.77	0.8	0.93	1	105.9	5.4	0.81	0.94	1	99.3	6.09	0.83	0.95	1
	4800	123.1	4.24	0.82	0.96	1	116.6	4.79	0.83	0.96	1	110.1	5.4	0.84	0.98	1	103.2	6.11	0.87	0.99	1
67°F	3200	119.8	4.21	0.53	0.71	0.84	113.6	4.76	0.54	0.7	0.85	106.8	5.38	0.53	0.72	0.86	99.8	6.09	0.54	0.72	0.88
	4000	124.8	4.23	0.57	0.75	0.89	117.9	4.79	0.56	0.76	0.9	110.9	5.41	0.56	0.78	0.92	103.6	6.12	0.56	0.8	0.94
	4800	128.2	4.25	0.59	0.8	0.93	121.2	4.8	0.59	0.81	0.95	114	5.42	0.59	0.82	0.96	106.5	6.13	0.6	0.84	0.97
71°F	3200	126.5	4.25	0.36	0.51	0.67	119.8	4.8	0.35	0.52	0.67	112.9	5.42	0.34	0.51	0.69	105.6	6.12	0.33	0.51	0.7
	4000	131.3	4.28	0.35	0.54	0.72	124	4.82	0.35	0.55	0.73	116.8	5.44	0.35	0.55	0.75	109.3	6.13	0.33	0.56	0.75
	4800	134.4	4.3	0.35	0.58	0.77	127.1	4.84	0.35	0.58	0.79	119.5	5.45	0.35	0.59	0.81	111.8	6.14	0.34	0.59	0.83

NOTE - Compressors operating at maximum capacity.

20 TON - LCM240U4M/V (THREE COMPRESSORS OPERATING)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4800	182.5	6.82	0.74	0.85	0.94	173	7.77	0.75	0.85	0.95	163.1	8.8	0.74	0.87	0.96	153	9.96	0.76	0.87	0.97
	6000	192.5	6.87	0.78	0.89	0.97	182.8	7.81	0.79	0.9	0.98	172.5	8.85	0.8	0.92	0.99	162.1	9.99	0.81	0.93	1
	7200	200.7	6.91	0.82	0.93	1	190.5	7.85	0.83	0.94	1	180.1	8.88	0.83	0.95	1	169.1	10.03	0.85	0.96	1
67°F	4800	193.9	6.88	0.57	0.7	0.82	183.8	7.82	0.56	0.7	0.83	172.9	8.85	0.57	0.71	0.84	161.7	9.99	0.56	0.73	0.85
	6000	202.5	6.93	0.6	0.75	0.87	191.3	7.85	0.59	0.77	0.88	179.6	8.88	0.6	0.77	0.89	168.4	10.02	0.6	0.79	0.9
	7200	208.1	6.96	0.61	0.8	0.91	197	7.88	0.62	0.8	0.92	185.5	8.91	0.63	0.82	0.93	173.9	10.04	0.64	0.83	0.95
71°F	4800	205.1	6.94	0.41	0.55	0.67	194.5	7.88	0.42	0.54	0.67	183.5	8.9	0.4	0.54	0.69	171.9	10.04	0.38	0.55	0.69
	6000	214	6.99	0.42	0.57	0.72	196.9	7.99	0.42	0.6	0.73	191.1	8.94	0.38	0.59	0.75	179	10.07	0.38	0.58	0.76
	7200	220.2	7.02	0.44	0.6	0.78	208.5	7.94	0.44	0.62	0.78	196.2	8.95	0.4	0.63	0.79	183.7	10.09	0.39	0.62	0.82

NOTE - Compressors operating at maximum capacity.

20 TON - LCM240U4M/V (FOUR COMPRESSORS OPERATING)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	6400	242.5	13.9	0.73	0.83	0.94	228.2	15.64	0.74	0.84	0.95	213.2	17.55	0.74	0.86	0.97	197.4	19.66	0.76	0.88	0.99
	8000	257.4	14.01	0.76	0.89	0.99	241.8	15.75	0.78	0.9	1	225.6	17.67	0.78	0.92	1	209.1	19.78	0.8	0.95	1
	9600	268.1	14.1	0.8	0.94	1	252.3	15.84	0.82	0.96	1	235.9	17.76	0.84	0.98	1	219.2	19.88	0.85	0.99	1
67°F	6400	255.7	14.02	0.56	0.7	0.8	239.7	15.75	0.57	0.71	0.82	223.2	17.66	0.57	0.72	0.83	206.2	19.77	0.57	0.74	0.85
	8000	268	14.11	0.61	0.75	0.86	251.7	15.84	0.61	0.77	0.88	234.8	17.76	0.62	0.77	0.9	217.3	19.88	0.62	0.78	0.92
	9600	278	14.18	0.63	0.79	0.91	261.2	15.92	0.64	0.79	0.93	243.7	17.84	0.64	0.81	0.95	225.9	19.96	0.66	0.83	0.98
71°F	6400	272.9	14.17	0.42	0.56	0.68	256.7	15.9	0.41	0.56	0.69	239.6	17.83	0.4	0.55	0.7	221.8	19.94	0.4	0.56	0.71
	8000	286.1	14.26	0.43	0.59	0.73	268.6	16	0.42	0.6	0.74	251.1	17.93	0.42	0.59	0.74	231.9	20.04	0.43	0.6	0.76
	9600	294.9	14.32	0.45	0.63	0.77	276.6	16.06	0.44	0.63	0.78	258.1	17.99	0.45	0.64	0.8	237.8	20.1	0.47	0.66	0.81

NOTE - Compressors operating at maximum capacity.

COOLING RATINGS

NOTE − For Temperatures and Capacities not shown in tables, see bulletin − Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

25 TON - LCM300U4M/V (ONE COMPRESSOR OPERATING)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	2000	57.9	1.84	0.8	0.94	0.99	55.3	2.07	0.81	0.94	1	52.3	2.39	0.82	0.95	1	48.9	2.76	0.83	0.96	1
	2500	60.7	1.83	0.86	0.96	1	58	2.07	0.86	0.97	1	54.9	2.39	0.87	0.98	1	51.6	2.77	0.88	0.98	1
	3000	63.1	1.82	0.88	0.98	1	60.4	2.06	0.89	0.99	1	57.2	2.39	0.9	0.99	1	53.8	2.77	0.9	1	1
67°F	2000	60.9	1.83	0.51	0.75	0.91	58.3	2.07	0.51	0.76	0.92	55.2	2.39	0.5	0.77	0.93	51.7	2.77	0.5	0.78	0.94
	2500	63.8	1.81	0.54	0.81	0.94	60.9	2.06	0.54	0.82	0.95	57.7	2.39	0.54	0.84	0.96	54	2.77	0.54	0.85	0.97
	3000	66	1.8	0.57	0.86	0.97	63	2.06	0.58	0.87	0.97	59.5	2.39	0.58	0.87	0.98	55.6	2.77	0.58	0.88	0.99
71°F	2000	64.2	1.82	0.23	0.47	0.7	61.4	2.06	0.21	0.47	0.7	58.2	2.39	0.19	0.46	0.71	54.7	2.77	0.18	0.46	0.73
	2500	67.1	1.8	0.23	0.51	0.76	64.2	2.05	0.21	0.5	0.77	60.7	2.39	0.2	0.5	0.79	57	2.77	0.18	0.51	0.8
	3000	69.2	1.79	0.23	0.54	0.82	66.1	2.05	0.22	0.54	0.83	62.6	2.39	0.21	0.55	0.85	58.7	2.77	0.19	0.55	0.86

NOTE - Compressor operating at maximum capacity.

25 TON - LCM300U4M/V (TWO COMPRESSORS OPERATING)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4000	131.3	5.21	0.73	0.86	0.98	125.2	5.83	0.73	0.87	0.99	118.6	6.61	0.74	0.88	1	111.1	7.51	0.75	0.9	1
	5000	138.4	5.21	0.77	0.92	1	132.2	5.86	0.78	0.93	1	125.2	6.64	0.79	0.95	1	117.8	7.56	0.8	0.96	1
	6000	144.6	5.22	0.81	0.96	1	138	5.88	0.82	0.97	1	131	6.67	0.83	0.98	1	123.4	7.59	0.85	0.99	1
67°F	4000	139.4	5.21	0.58	0.71	0.83	132.8	5.86	0.58	0.71	0.84	125.6	6.64	0.58	0.72	0.85	117.9	7.55	0.58	0.73	0.87
	5000	146.1	5.22	0.6	0.75	0.89	139.3	5.88	0.61	0.76	0.9	131.6	6.68	0.61	0.77	0.92	123.2	7.58	0.6	0.78	0.94
	6000	151.1	5.24	0.62	0.79	0.94	143.7	5.9	0.62	0.8	0.95	135.4	6.69	0.62	0.81	0.97	127.4	7.62	0.63	0.83	0.98
71°F	4000	147.2	5.21	0.43	0.56	0.69	140.1	5.87	0.43	0.57	0.69	132.7	6.67	0.43	0.57	0.7	124.7	7.59	0.41	0.57	0.71
	5000	154.2	5.23	0.45	0.6	0.73	146.9	5.9	0.42	0.6	0.74	139.1	6.71	0.43	0.6	0.75	130.8	7.63	0.4	0.59	0.76
	6000	159.6	5.24	0.43	0.62	0.77	151.7	5.91	0.43	0.61	0.78	143.7	6.72	0.43	0.61	0.8	134.8	7.65	0.43	0.64	0.81

NOTE - Compressors operating at maximum capacity.

25 TON - LCM300U4M/V (THREE COMPRESSORS OPERATING)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	5600	218.9	9.6	0.7	0.82	0.93	208.5	10.77	0.69	0.82	0.94	197.2	12.14	0.7	0.85	0.96	185.5	13.67	0.72	0.86	0.97
	7000	230.5	9.64	0.73	0.87	0.98	219.4	10.83	0.75	0.89	0.99	207.4	12.2	0.75	0.91	1	195.2	13.75	0.76	0.92	1
	8400	239	9.67	0.77	0.94	1	227.9	10.87	0.78	0.94	1	215.7	12.26	0.79	0.95	1	203.4	13.81	0.82	0.97	1
67°F	5600	231.9	9.65	0.55	0.67	0.78	220.9	10.85	0.55	0.67	0.79	208.9	12.22	0.54	0.69	0.82	196.6	13.77	0.54	0.69	0.83
	7000	243.2	9.7	0.57	0.71	0.85	231.6	10.9	0.57	0.71	0.85	218.9	12.28	0.56	0.73	0.88	205.9	13.84	0.58	0.74	0.88
	8400	251.4	9.72	0.58	0.75	0.9	239.2	10.93	0.6	0.75	0.91	226	12.32	0.59	0.77	0.93	212.4	13.88	0.61	0.79	0.95
71°F	5600	246.5	9.72	0.41	0.53	0.64	234.7	10.93	0.4	0.54	0.65	222.5	12.33	0.4	0.54	0.66	209.6	13.87	0.39	0.53	0.67
	7000	258.3	9.75	0.41	0.55	0.69	245.4	10.98	0.41	0.56	0.69	232.4	12.39	0.4	0.56	0.7	218.7	13.95	0.4	0.56	0.71
	8400	266.3	9.78	0.41	0.58	0.73	253.1	11.02	0.42	0.58	0.74	239.5	12.43	0.42	0.58	0.76	225	13.99	0.41	0.6	0.76

NOTE - Compressors operating at maximum capacity.

25 TON - LCM300U4M/V (FOUR COMPRESSORS OPERATING)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	7000	277.9	18.5	0.71	0.81	0.91	262	20.73	0.72	0.82	0.93	245.1	23.21	0.73	0.84	0.95	227.7	25.99	0.74	0.85	0.97
	8500	292.3	18.65	0.76	0.86	0.96	275.7	20.88	0.76	0.87	0.98	258.2	23.37	0.78	0.89	0.99	239.5	26.14	0.78	0.91	1
	10000	303.9	18.77	0.78	0.9	1	286.4	20.99	0.79	0.92	1	268.1	23.48	0.81	0.94	1	248.8	26.28	0.82	0.96	1
67°F	7000	294.6	18.69	0.58	0.7	0.79	276.9	20.92	0.59	0.71	0.79	258.8	23.39	0.57	0.71	0.8	239.4	26.18	0.58	0.73	0.83
	8500	307.1	18.82	0.65	0.74	0.83	288.7	21.05	0.6	0.75	0.85	269.8	23.54	0.62	0.75	0.86	250.2	26.31	0.64	0.77	0.88
	10000	316.8	18.91	0.63	0.77	0.87	298.1	21.14	0.64	0.78	0.89	279.1	23.65	0.65	0.78	0.91	258.7	26.42	0.67	0.8	0.93
71°F	7000	313.2	18.91	0.44	0.57	0.67	294.8	21.14	0.44	0.58	0.67	270.4	23.57	0.43	0.62	0.69	256.5	26.43	0.44	0.56	0.7
	8500	326.3	19.05	0.44	0.59	0.72	304.8	21.25	0.45	0.59	0.72	287.6	23.79	0.46	0.6	0.74	266	26.57	0.47	0.62	0.74
	10000	333.6	19.13	0.48	0.62	0.75	316.6	21.4	0.51	0.62	0.76	295.3	23.87	0.47	0.64	0.78	273.6	26.67	0.46	0.66	0.79

NOTE - Compressors operating at maximum capacity.

HUMIDITROL™+ DEHUMIDIFICATION SYSTEM RATINGS

13 TON - LCM156U4M WITH HUMIDITROL™+ OPERATING

Entering Wet Bulb Temperature	Outdoor Air Temperature Entering Outdoor Coil																							
	65°F						75°F						85°F						95°F					
	Total Air Vol.	Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Air Vol.	Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Air Vol.	Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Air Vol.	Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	cfm	kBtuh	kW	75°F	80°F	85°F	cfm	kBtuh	kW	75°F	80°F	85°F	cfm	kBtuh	kW	75°F	80°F	85°F
63°F	1861	45.5	4.85	0.27	0.49	0.69	1735	34.8	5.35	0.09	0.37	0.61	1697	29.7	5.46	0.00	0.29	0.49	1571	22.4	5.78	0.00	0.00	0.44
67°F	1526	53.1	4.96	0.12	0.26	0.41	1450	46.6	5.24	0.12	0.15	0.30	1408	41.0	5.38	0.00	0.16	0.21	1307	32.4	5.77	0.00	0.00	0.19
71°F	1266	60.2	5.05	0.06	0.14	0.25	1190	53.9	5.29	0.06	0.08	0.15	1177	49.3	5.39	0.00	0.08	0.09	1103	40.7	5.82	0.00	0.00	0.07

NOTE - The variable capacity compressor and one fixed capacity compressor operate at maximum Hz, indoor blower operating at optimal CFM and outdoor fan operating to maintain a discharge air temperature target equal to indoor dry bulb temperature.

15 TON - LCM180U4M WITH HUMIDITROL™+ OPERATING

Entering Wet Bulb Temperature	Outdoor Air Temperature Entering Outdoor Coil																							
	65°F						75°F						85°F						95°F					
	Total Air Vol.	Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Air Vol.	Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Air Vol.	Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Air Vol.	Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	cfm	kBtuh	kW	75°F	80°F	85°F	cfm	kBtuh	kW	75°F	80°F	85°F	cfm	kBtuh	kW	75°F	80°F	85°F
63°F	2285	57.9	5.56	0.31	0.53	0.69	2112	43.4	6.19	0.17	0.41	0.65	1881	33.1	6.60	0.01	0.21	0.40	1849	23.7	7.14	0.00	0.01	0.18
67°F	1833	64.4	5.69	0.13	0.28	0.44	1650	51.9	6.22	0.00	0.17	0.35	1553	43.2	6.63	0.00	0.00	0.19	1475	36.6	6.98	0.00	0.00	0.01
71°F	1561	71.5	5.81	0.04	0.15	0.27	1389	58.7	6.40	0.00	0.05	0.18	1378	54.6	6.56	0.00	0.00	0.06	1373	48.0	6.89	0.00	0.00	0.01

NOTE - The variable capacity compressor and one fixed capacity compressor operate at maximum Hz, indoor blower operating at optimal CFM and outdoor fan operating to maintain a discharge air temperature target equal to indoor dry bulb temperature.

17.5 TON - LCM210U4M WITH HUMIDITROL™+ OPERATING

Entering Wet Bulb Temperature	Outdoor Air Temperature Entering Outdoor Coil																							
	65°F						75°F						85°F						95°F					
	Total Air Vol.	Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Air Vol.	Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Air Vol.	Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Air Vol.	Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	cfm	kBtuh	kW	75°F	80°F	85°F	cfm	kBtuh	kW	75°F	80°F	85°F	cfm	kBtuh	kW	75°F	80°F	85°F
63°F	2190	43.6	4.66	0.72	0.91	1.00	2058	30.9	5.15	0.29	0.87	0.96	2065	18.9	5.63	0.07	0.15	0.46	1838	12.8	5.92	0.00	0.12	0.46
67°F	1657	51.2	4.73	0.34	0.64	0.78	1668	36.7	5.22	0.05	0.48	0.75	1651	24.9	5.59	0.00	0.01	0.38	1475	22.5	5.98	0.00	0.01	0.38
71°F	1759	63.3	4.85	0.02	0.36	0.52	1801	53.6	5.20	0.01	0.18	0.31	1340	33.7	5.53	0.00	0.01	0.16	1228	34.8	9.03	0.00	0.00	0.00

NOTE - The variable capacity compressor and one fixed capacity compressor operate at maximum Hz, indoor blower operating at optimal CFM and outdoor fan operating to maintain a discharge air temperature target equal to indoor dry bulb temperature.

20 TON - LCM240U4M WITH HUMIDITROL™+ OPERATING

Entering Wet Bulb Temperature	Outdoor Air Temperature Entering Outdoor Coil																							
	65°F						75°F						85°F						95°F					
	Total Air Vol.	Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Air Vol.	Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Air Vol.	Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Air Vol.	Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	cfm	kBtuh	kW	75°F	80°F	85°F	cfm	kBtuh	kW	75°F	80°F	85°F	cfm	kBtuh	kW	75°F	80°F	85°F
63°F	2340	52.2	6.40	0.52	0.51	0.74	2208	40.6	6.93	0.10	0.42	0.63	2215	30.0	7.40	0.01	0.18	0.64	1968	23.9	7.66	0.00	0.18	0.64
67°F	1807	60.4	6.59	0.25	0.25	0.42	1818	50.5	7.07	0.01	0.12	0.33	1751	43.2	7.35	0.00	0.01	0.19	1575	37.3	7.55	0.00	0.00	0.01
71°F	1909	68.1	6.77	0.13	0.13	0.13	1506	59.0	7.12	0.01	0.01	0.14	1440	53.8	7.25	0.00	0.00	0.00	1328	49.0	7.37	0.00	0.00	0.00

NOTE - The variable capacity compressor and one fixed capacity compressor operate at maximum Hz, indoor blower operating at optimal CFM and outdoor fan operating to maintain a discharge air temperature target equal to indoor dry bulb temperature.

25 TON - LCM300U4M WITH HUMIDITROL™+ OPERATING

Entering Wet Bulb Temperature	Outdoor Air Temperature Entering Outdoor Coil																							
	65°F						75°F						85°F						95°F					
	Total Air Vol.	Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Air Vol.	Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Air Vol.	Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Air Vol.	Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	cfm	kBtuh	kW	75°F	80°F	85°F	cfm	kBtuh	kW	75°F	80°F	85°F	cfm	kBtuh	kW	75°F	80°F	85°F
63°F	2878	56.5	8.32	0.44	0.80	1.00	2650	48.7	8.54	0.40	0.79	1.00	2709	39.8	8.91	0.28	0.40	0.73	2430	33.7	9.09	0.00	0.40	0.61
67°F	2259	69.7	8.38	0.18	0.45	1.00	2236	57.5	8.53	0.19	0.30	0.95	2347	54.9	8.78	0.13	0.20	0.28	1900	46.6	9.03	0.00	0.16	0.23
71°F	2291	73.3	8.45	0.12	0.20	0.57	2107	74.5	8.45	0.12	0.13	0.19	1690	65.2	8.74	0.04	0.11	0.10	1533	56.4	9.03	0.00	0.05	0.11

NOTE - The variable capacity compressor and one fixed capacity compressor operate at maximum Hz, indoor blower operating at optimal CFM and outdoor fan operating to maintain a discharge air temperature target equal to indoor dry bulb temperature.

BLOWER DATA

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL & AIR FILTERS IN PLACE

FOR ALL UNITS ADD:

1 - Wet indoor coil air resistance of selected unit.
2 - Any factory installed options air resistance (electric heat, Economizer, etc.)
3 - Any field installed accessories air resistance (electric heat, duct resistance, diffuser, etc.)

Then determine from blower table blower motor output and drive required.
See page 33 for wet coil and option/accessory air resistance data.
See page 33 for factory installed drive kit specifications.

MINIMUM AIR VOLUME REQUIRED FOR USE WITH OPTIONAL ELECTRIC HEAT

LCM156H units require 5200 cfm minimum air with electric heat.
All other units require 6000 cfm minimum air with electric heat.

Air Volume cfm	TOTAL STATIC PRESSURE - Inches Water Gauge (Pa)																									
	0.20		0.40		0.60		0.80		1.00		1.20		1.40		1.60		1.80		2.00		2.20		2.40		2.60	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2750	385	0.30	505	0.50	600	0.70	680	0.90	755	1.10	820	1.30	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3000	395	0.35	515	0.55	610	0.75	685	1.00	760	1.20	825	1.45	885	1.70	---	---	---	---	---	---	---	---	---	---	---	---
3250	405	0.40	520	0.60	615	0.85	695	1.10	765	1.30	830	1.60	890	1.85	950	2.10	---	---	---	---	---	---	---	---	---	---
3500	415	0.45	530	0.70	620	0.95	700	1.20	775	1.45	840	1.70	900	2.00	955	2.25	1005	2.55	---	---	---	---	---	---	---	---
3750	425	0.50	540	0.75	630	1.05	710	1.30	780	1.60	845	1.85	905	2.15	960	2.45	1010	2.70	1060	3.00	1110	3.30	---	---	---	---
4000	435	0.55	545	0.85	635	1.10	715	1.40	785	1.70	850	2.00	910	2.30	965	2.60	1020	2.90	1070	3.25	1115	3.55	1160	3.85	1205	4.15
4250	445	0.60	555	0.90	645	1.25	725	1.55	795	1.85	855	2.15	915	2.45	970	2.80	1025	3.10	1075	3.45	1120	3.75	1165	4.10	1210	4.45
4500	455	0.70	565	1.00	655	1.35	730	1.65	800	2.00	865	2.35	925	2.65	980	3.00	1030	3.30	1080	3.65	1130	4.05	1175	4.35	1215	4.70
4750	470	0.75	575	1.10	660	1.45	740	1.80	810	2.15	870	2.50	930	2.85	985	3.20	1040	3.55	1085	3.90	1135	4.25	1180	4.65	1225	5.00
5000	480	0.85	585	1.25	670	1.60	750	1.95	815	2.30	880	2.70	940	3.05	995	3.40	1045	3.80	1095	4.15	1140	4.50	1185	4.90	1230	5.30
5250	495	0.95	595	1.35	680	1.70	755	2.10	825	2.50	890	2.90	945	3.25	1000	3.65	1050	4.00	1100	4.40	1150	4.80	1195	5.20	1235	5.60
5500	505	1.05	605	1.45	690	1.85	765	2.25	835	2.65	895	3.05	955	3.45	1010	3.85	1060	4.25	1110	4.70	1155	5.10	1200	5.50	1240	5.90
5750	520	1.15	615	1.60	700	2.00	775	2.45	840	2.85	905	3.25	960	3.65	1015	4.10	1065	4.50	1115	4.95	1160	5.35	1205	5.80	1250	6.25
6000	530	1.30	630	1.75	710	2.15	785	2.60	850	3.05	910	3.45	970	3.90	1025	4.35	1075	4.80	1120	5.20	1170	5.65	1215	6.10	1255	6.55
6250	545	1.40	640	1.90	720	2.35	795	2.80	860	3.25	920	3.70	975	4.15	1030	4.60	1080	5.05	1130	5.50	1175	5.95	1220	6.45	1265	6.90
6500	560	1.55	650	2.05	730	2.50	805	3.00	870	3.45	930	3.95	985	4.40	1040	4.85	1090	5.35	1140	5.85	1185	6.30	1225	6.75	1270	7.25
6750	570	1.70	665	2.20	745	2.70	815	3.20	880	3.70	940	4.20	995	4.65	1045	5.10	1095	5.60	1145	6.10	1190	6.60	1235	7.10	1275	7.60
7000	585	1.85	675	2.35	755	2.90	825	3.40	890	3.95	950	4.45	1005	4.95	1055	5.40	1105	5.95	1155	6.45	1200	6.95	1240	7.45	1285	8.00
7250	600	2.00	690	2.60	765	3.10	835	3.65	900	4.15	955	4.65	1015	5.25	1065	5.75	1115	6.25	1160	6.75	1205	7.30	1250	7.85	1290	8.35
7500	615	2.20	700	2.75	775	3.30	845	3.85	910	4.45	965	4.95	1020	5.50	1075	6.05	1125	6.60	1170	7.15	1215	7.65	1260	8.25	1300	8.75
7750	630	2.40	715	3.00	790	3.55	855	4.10	920	4.70	975	5.25	1030	5.80	1080	6.35	1130	6.90	1180	7.50	1225	8.05	1265	8.60	1305	9.15
8000	640	2.55	725	3.20	800	3.80	865	4.35	930	4.95	985	5.50	1040	6.10	1090	6.70	1140	7.25	1185	7.85	1230	8.40	1275	9.00	1315	9.60
8250	655	2.80	740	3.40	810	4.00	880	4.65	940	5.25	995	5.85	1050	6.45	1100	7.05	1150	7.65	1195	8.25	1240	8.85	1280	9.40	1325	10.05
8500	670	3.00	750	3.65	825	4.30	890	4.90	950	5.55	1005	6.15	1060	6.80	1110	7.40	1160	8.05	1205	8.65	1250	9.25	1290	9.85	1330	10.45
8750	685	3.25	765	3.90	835	4.55	900	5.20	960	5.85	1015	6.45	1070	7.15	1120	7.75	1165	8.35	1215	9.05	1255	9.65	1300	10.30	1340	10.90
9000	700	3.50	780	4.20	850	4.85	910	5.50	970	6.15	1025	6.80	1080	7.50	1130	8.15	1175	8.75	1220	9.40	1265	10.10	1310	10.80	1350	11.40
9250	715	3.75	790	4.45	860	5.15	925	5.85	985	6.55	1040	7.20	1090	7.85	1140	8.55	1185	9.20	1230	9.85	1275	10.55	1315	11.20	---	---
9500	730	4.00	805	4.75	875	5.45	935	6.15	995	6.90	1050	7.60	1100	8.25	1150	8.95	1195	9.60	1240	10.30	1285	11.05	---	---	---	---
9750	745	4.30	820	5.05	885	5.75	950	6.55	1005	7.20	1060	7.95	1110	8.65	1160	9.40	1205	10.05	1250	10.80	1295	11.50	---	---	---	---
10,000	760	4.60	835	5.40	900	6.15	960	6.85	1015	7.60	1070	8.35	1120	9.05	1170	9.80	1215	10.50	1260	11.25	---	---	---	---	---	---
10,250	775	4.90	845	5.65	910	6.45	970	7.20	1030	8.00	1080	8.75	1135	9.55	1180	10.25	1225	11.00	---	---	---	---	---	---	---	---
10,500	790	5.20	860	6.00	925	6.85	985	7.65	1040	8.40	1095	9.20	1145	10.00	1190	10.70	1235	11.45	---	---	---	---	---	---	---	---
10,750	805	5.55	875	6.40	940	7.25	1000	8.05	1055	8.85	1105	9.65	1155	10.45	1200	11.20	---	---	---	---	---	---	---	---	---	---
11,000	820	5.90	890	6.80	950	7.60	1010	8.45	1065	9.30	1115	10.05	1165	10.90	---	---	---	---	---	---	---	---	---	---	---	---

BLOWER DATA

FACTORY INSTALLED BELT DRIVE KIT SPECIFICATIONS

Motor Efficiency	Nominal hp	Maximum hp	Drive Kit Number	RPM Range
Standard	2	2.30	1	535 - 725
Standard	2	2.30	2	710 - 965
Standard	3	3.45	1	535 - 725
Standard	3	3.45	2	710 - 965
Standard	5	5.75	3	685 - 856
Standard	5	5.75	4	850 - 1045
Standard	5	5.75	5	945 - 1185
Standard	7.5	8.63	6	850 - 1045
Standard	7.5	8.63	7	945 - 1185
Standard	7.5	8.63	8	1045 - 1285
Standard	10	11.50	7	945 - 1185
Standard	10	11.50	10	1045 - 1285
Standard	10	11.50	11	1135 - 1365

NOTE - Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of motors furnished are shown. In Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

NOTE – Blower motor service factor = 1.0.

FACTORY INSTALLED OPTIONS/FIELD INSTALLED ACCESSORY AIR RESISTANCE

Air Volume cfm	Wet Indoor Coil		Humiditrol™+ Reheat Coil	Electric Heat	Economizer	Filters			Horizontal Roof Curb	
	156 180	210 240 300							156 thru 240	300
	in. w.g.	in. w.g.	in. w.g.	in. w.g.	in. w.g.	MERV 8	MERV 13	MERV 16	in. w.g.	in. w.g.
2750	.01	.02	.01	- - -	- - -	.01	.03	0.06	.03	-
3000	.01	.02	.01	- - -	- - -	.01	.03	0.06	.04	-
3250	.01	.03	.01	- - -	- - -	.01	.04	0.07	.04	.01
3500	.01	.03	.02	- - -	- - -	.01	.04	0.08	.05	.01
3750	.01	.03	.02	- - -	- - -	.01	.04	0.08	.05	.01
4000	.02	.04	.02	- - -	- - -	.01	.04	0.09	.06	.02
4250	.02	.04	.02	- - -	- - -	.01	.05	0.10	.07	.02
4500	.02	.05	.02	- - -	- - -	.01	.05	0.10	.07	.02
4750	.02	.05	.02	- - -	- - -	.02	.05	0.11	.08	.03
5000	.02	.05	.02	- - -	- - -	.02	.06	0.12	.08	.03
5250	.02	.06	.03	- - -	- - -	.02	.06	0.12	.09	.04
5500	.02	.07	.03	- - -	- - -	.02	.06	0.13	.10	.04
5750	.03	.07	.03	- - -	- - -	.02	.07	0.14	.11	.05
6000	.03	.08	.03	.01	- - -	.03	.07	0.14	.11	.06
6250	.03	.08	.03	.01	.01	.03	.07	0.15	.12	.07
6500	.03	.09	.04	.01	.02	.03	.08	0.16	.13	.08
6750	.04	.10	.04	.01	.03	.03	.08	0.17	.14	.08
7000	.04	.10	.04	.01	.04	.04	.08	0.17	.15	.09
7250	.04	.11	.04	.01	.05	.04	.09	0.18	.16	.10
7500	.05	.12	.05	.01	.06	.04	.09	0.19	.17	.11
8000	.05	.13	.05	.02	.09	.05	.10	0.21	.19	.13
8500	.06	.15	.05	.02	.11	.05	.10	0.22	.21	.15
9000	.07	.16	.06	.04	.14	.06	.11	0.24	.24	.17
9500	.08	.18	.07	.05	.16	.07	.12	0.25	.26	.19
10,000	.08	.20	.07	.06	.19	.07	.12	0.27	.29	.21
10,500	.09	.22	.08	.09	.22	.08	.13	0.29	.31	.24
11,000	.11	.24	.08	.11	.25	.09	.14	0.30	.34	.27

BLOWER DATA

POWER EXHAUST FAN PERFORMANCE

Return Air System Static Pressure	Air Volume Exhausted
in. w.g.	cfm
0.00	8630
0.05	8210
0.10	7725
0.15	7110
0.20	6470
0.25	5790
0.30	5060
0.35	4300
0.40	3510
0.45	2690
0.50	1840

CEILING DIFFUSER AIR RESISTANCE - in. w.g.

Air Volume cfm	Step-Down Diffuser						Flush Diffuser	
	RTD11-185S			RTD11-275S			FD11-185S	FD11-275S
	2 Ends Open	1 Side/2 Ends Open	All Ends & Sides Open	2 Ends Open	1 Side/2 Ends Open	All Ends & Sides Open		
5000	.51	.44	.39	- - -	- - -	- - -	.27	- - -
5200	.56	.48	.42	- - -	- - -	- - -	.30	- - -
5400	.61	.52	.45	- - -	- - -	- - -	.33	- - -
5600	.66	.56	.48	- - -	- - -	- - -	.36	- - -
5800	.71	.59	.51	- - -	- - -	- - -	.39	- - -
6000	.76	.63	.55	.36	.31	.27	.42	.29
6200	.80	.68	.59	- - -	- - -	- - -	.46	- - -
6400	.86	.72	.63	- - -	- - -	- - -	.50	- - -
6500	- - -	- - -	- - -	.42	.36	.31	- - -	.34
6600	.92	.77	.67	- - -	- - -	- - -	.54	- - -
6800	.99	.83	.72	- - -	- - -	- - -	.58	- - -
7000	1.03	.87	.76	.49	.41	.36	.62	.40
7200	1.09	.92	.80	- - -	- - -	- - -	.66	- - -
7400	1.15	.97	.84	- - -	- - -	- - -	.70	- - -
7500	- - -	- - -	- - -	.51	.46	.41	- - -	.45
7600	1.20	1.02	.88	- - -	- - -	- - -	.74	- - -
8000	- - -	- - -	- - -	.59	.49	.43	- - -	.50
8500	- - -	- - -	- - -	.69	.58	.50	- - -	.57
9000	- - -	- - -	- - -	.79	.67	.58	- - -	.66
9500	- - -	- - -	- - -	.89	.75	.65	- - -	.74
10,000	- - -	- - -	- - -	1.00	.84	.73	- - -	.81
10,500	- - -	- - -	- - -	1.10	.92	.80	- - -	.89
11,000	- - -	- - -	- - -	1.21	1.01	.88	- - -	.96

CEILING DIFFUSER AIR THROW DATA - ft.

Model No.	Air Volume cfm	[1] Effective Throw Range - ft.		Model No.	Air Volume cfm	[1] Effective Throw Range - ft.	
		RTD11-185S Step-Down	FD11-185S Flush			RTD11-275S Step-Down	FD11-275S Flush
156 180	5600	39 - 49	28 - 37	210 240 300	7200	33 - 38	26 - 35
	5800	42 - 51	29 - 38		7400	35 - 40	28 - 37
	6000	44 - 54	40 - 50		7600	36 - 41	29 - 38
	6200	45 - 55	42 - 51		7800	38 - 43	40 - 50
	6400	46 - 55	43 - 52		8000	39 - 44	42 - 51
	6600	47 - 56	45 - 56		8200	41 - 46	43 - 52
					8400	43 - 49	44 - 54
					8600	44 - 50	46 - 57
					8800	47 - 55	48 - 59

[1] Throw is the horizontal or vertical distance an airstream travels on leaving the outlet or diffuser before the maximum velocity is reduced to 50 ft. per minute. Four sides open.

ELECTRICAL/ELECTRIC HEAT DATA — 13 TON

	Model No.	LCM156U4					
[1] Voltage - 60Hz		208/230V-3ph			460V-3ph		
Compressor 1	Rated Load Amps	13.3			5.9		
	Locked Rotor Amps	21			11		
Compressor 2	Rated Load Amps	14.5			6.3		
	Locked Rotor Amps	98			55		
Compressor 3	Rated Load Amps	14.5			6.3		
	Locked Rotor Amps	98			55		
Outdoor Fan Motors (4)	Full Load Amps (total)	2.8 (11.2)			1.4 (5.6)		
Power Exhaust (2) 0.33 HP	Full Load Amps (total)	2.4 (4.8)			1.3 (2.6)		
Service Outlet 115V GFI (amps)		15			15		
Indoor Blower Motor	Horsepower	2	3	5	2	3	5
	Full Load Amps	7.5	10.6	16.7	3.4	4.8	7.6
[2] Maximum Overcurrent Protection (MOCP)	Unit Only	70	80	90	35	35	40
	With (2) 0.33 HP Power Exhaust	80	80	90	35	35	40
[3] Minimum Circuit Ampacity (MCA)	Unit Only	65	68	75	30	31	34
	With (2) 0.33 HP Power Exhaust	70	73	80	32	34	37

ELECTRIC HEAT DATA

	Electric Heat Voltage		208V	240V	208V	240V	208V	240V	480V	480V	480V
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat	**15 kW**	70	70	80	80	90	90	35	35	40
		30 kW	[4] **90**	100	[4] **100**	110	[4] **100**	125	50	60	60
		45 kW	150	150	150	150	[4] **150**	175	80	80	80
		60 kW	[4] **150**	175	[4] **150**	175	[4] **150**	175	80	80	90
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat	**15 kW**	65	65	68	68	75	75	30	31	34
		30 kW	88	100	92	104	100	112	50	52	55
		45 kW	127	145	131	149	139	157	72	74	78
		60 kW	135	154	139	158	146	166	77	79	82
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat and (2) 0.33 HP Power Exhaust	**15 kW**	80	80	80	80	90	90	35	35	40
		30 kW	[4] **100**	110	[4] **100**	110	[4] **110**	125	60	60	60
		45 kW	[4] **150**	175	[4] **150**	175	[4] **150**	175	80	80	90
		60 kW	[4] **150**	175	[4] **150**	175	175	175	80	90	90
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat and (2) 0.33 HP Power Exhaust	**15 kW**	70	70	73	73	80	80	32	34	37
		30 kW	94	106	98	110	106	118	53	55	58
		45 kW	133	151	137	155	145	163	76	77	81
		60 kW	141	160	145	164	152	172	80	82	85

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

[1] Extremes of operating range are plus and minus 10% of line voltage.

[2] HACR type breaker or fuse.

[3] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

[4] Factory installed circuit breaker not available.

ELECTRICAL/ELECTRIC HEAT DATA — 15 TON

	Model No.	LCM180U4					
[1] Voltage - 60Hz		208/230V-3ph			460V-3ph		
Compressor 1	Rated Load Amps	15.7			6.8		
	Locked Rotor Amps	21			11		
Compressor 2	Rated Load Amps	16			7.8		
	Locked Rotor Amps	110			52		
Compressor 3	Rated Load Amps	16			7.8		
	Locked Rotor Amps	110			52		
Outdoor Fan Motors (4)	Full Load Amps (total)	2.8 (11.2)			1.4 (5.6)		
Power Exhaust (2) 0.33 HP	Full Load Amps (total)	2.4 (4.8)			1.3 (2.6)		
Service Outlet 115V GFI (amps)		15			15		
Indoor Blower Motor	Horsepower	3	5	7.5	3	5	7.5
	Full Load Amps	10.6	16.7	24.2	4.8	7.6	11
[2] Maximum Overcurrent Protection (MOCP)	Unit Only	80	90	110	40	45	50
	With (2) 0.33 HP Power Exhaust	90	100	110	45	45	50
[3] Minimum Circuit Ampacity (MCA)	Unit Only	74	80	90	35	38	42
	With (2) 0.33 HP Power Exhaust	79	85	94	38	41	45

ELECTRIC HEAT DATA

	Electric Heat Voltage		208V	240V	208V	240V	208V	240V	480V	480V	480V
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat	**15 kW**	80	80	90	90	110	110	40	45	50
		30 kW	[4] **100**	110	[4] **100**	125	[4] **110**	125	60	60	60
		45 kW	150	150	[4] **150**	175	[4] **150**	175	80	80	90
		60 kW	[4] **150**	175	[4] **150**	175	175	175	80	90	90
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat	**15 kW**	74	74	80	80	90	90	35	38	42
		30 kW	92	104	100	112	109	121	52	55	59
		45 kW	131	149	139	157	148	166	74	78	82
		60 kW	139	158	146	166	156	175	79	82	86
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat and (2) 0.33 HP Power Exhaust	**15 kW**	90	90	100	100	110	110	45	45	50
		30 kW	[4] **100**	110	[4] **110**	125	[4] **125**	150	60	60	70
		45 kW	[4] **150**	175	[4] **150**	175	175	175	80	90	90
		60 kW	[4] **150**	175	175	175	[4] **175**	200	90	90	90
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat and (2) 0.33 HP Power Exhaust	**15 kW**	79	79	85	85	94	94	38	41	45
		30 kW	98	110	106	118	115	127	55	58	63
		45 kW	137	155	145	163	154	172	77	81	85
		60 kW	145	164	152	172	162	181	82	85	90

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

[1] Extremes of operating range are plus and minus 10% of line voltage.

[2] HACR type breaker or fuse.

[3] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

[4] Factory installed circuit breaker not available.

ELECTRICAL/ELECTRIC HEAT DATA — 17.5 TON

	Model No.	LCM210U4					
[1] Voltage - 60Hz		208/230V-3ph			460V-3ph		
Compressor 1	Rated Load Amps	13.3			5.9		
	Locked Rotor Amps	21			11		
Compressor 2	Rated Load Amps	14.5			6.3		
	Locked Rotor Amps	98			55		
Compressor 3	Rated Load Amps	14.5			6.3		
	Locked Rotor Amps	98			55		
Compressor 4	Rated Load Amps	14.5			6.3		
	Locked Rotor Amps	98			55		
Outdoor Fan Motors (6)	Full Load Amps (total)	2.8 (16.8)			1.4 (8.4)		
Power Exhaust (2) 0.33 HP	Full Load Amps (total)	2.4 (4.8)			1.3 (2.6)		
Service Outlet 115V GFI (amps)		15			15		
Indoor Blower Motor	Horsepower	3	5	7.5	3	5	7.5
	Full Load Amps	10.6	16.7	24.2	4.8	7.6	11
[2] Maximum Overcurrent Protection (MOCP)	Unit Only	100	110	125	45	50	50
	With (2) 0.33 HP Power Exhaust	100	110	125	45	50	60
[3] Minimum Circuit Ampacity (MCA)	Unit Only	88	95	104	40	43	47
	With (2) 0.33 HP Power Exhaust	93	100	109	43	46	50

ELECTRIC HEAT DATA

	Electric Heat Voltage		208V	240V	208V	240V	208V	240V	480V	480V	480V
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat	**15 kW**	100	100	110	110	125	125	45	50	50
		30 kW	[4] **100**	110	[4] **110**	125	125	125	60	60	60
		45 kW	150	150	[4] **150**	175	[4] **150**	175	80	80	90
		60 kW	[4] **150**	175	[4] **150**	175	175	175	80	90	90
		90 kW	[4] **225**	250	[4] **225**	250	[4] **225**	250	125	125	125
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat	**15 kW**	88	88	95	95	104	104	40	43	47
		30 kW	92	104	100	112	109	121	52	55	59
		45 kW	131	149	139	157	148	166	74	78	82
		60 kW	139	158	146	166	156	175	79	82	86
		90 kW	201	230	209	238	218	247	115	118	123
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat and (2) 0.33 HP Power Exhaust	**15 kW**	100	100	110	110	125	125	45	50	60
		30 kW	[4] **100**	110	[4] **110**	125	[4] **125**	150	60	60	70
		45 kW	[4] **150**	175	[4] **150**	175	175	175	80	90	90
		60 kW	[4] **150**	175	175	175	[4] **175**	200	90	90	90
		90 kW	[4] **225**	250	[4] **225**	250	[4] **225**	[4] **300**	125	125	150
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat and (2) 0.33 HP Power Exhaust	**15 kW**	93	93	100	100	109	109	43	46	50
		30 kW	98	110	106	118	115	127	55	58	63
		45 kW	137	155	145	163	154	172	77	81	85
		60 kW	145	164	152	172	162	181	82	85	90
		90 kW	207	236	215	244	224	253	118	122	126

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

[1] Extremes of operating range are plus and minus 10% of line voltage.

[2] HACR type breaker or fuse.

[3] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

[4] Factory installed circuit breaker not available.

ELECTRICAL/ELECTRIC HEAT DATA — 20 TON

	Model No.	LCM240U4					
[1] Voltage - 60Hz		208/230V-3ph			460V-3ph		
Compressor 1	Rated Load Amps	16.8			7.8		
	Locked Rotor Amps	21			11		
Compressor 2	Rated Load Amps	13.2			6.3		
	Locked Rotor Amps	93			60		
Compressor 3	Rated Load Amps	13.2			6.3		
	Locked Rotor Amps	93			60		
Compressor 4	Rated Load Amps	13.2			6.3		
	Locked Rotor Amps	93			60		
Outdoor Fan Motors (6)	Full Load Amps (total)	2.8 (16.8)			1.4 (8.4)		
Power Exhaust (2) 0.33 HP	Full Load Amps (total)	2.4 (4.8)			1.3 (2.6)		
Service Outlet 115V GFI (amps)		15			15		
Indoor Blower Motor	Horsepower	5	7.5	10	5	7.5	10
	Full Load Amps	16.7	24.2	30.8	7.6	11	14
[2] Maximum Overcurrent Protection (MOCP)	Unit Only	110	125	125	50	50	60
	With (2) 0.33 HP Power Exhaust	110	125	125	50	60	60
[3] Minimum Circuit Ampacity (MCA)	Unit Only	95	104	112	45	49	53
	With (2) 0.33 HP Power Exhaust	99	109	117	48	52	56

ELECTRIC HEAT DATA

	Electric Heat Voltage		208V	240V	208V	240V	208V	240V	480V	480V	480V
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat	**15 kW**	110	110	125	125	125	125	50	50	60
		30 kW	[4]**110**	125	125	125	[4]**125**	150	60	60	70
		45 kW	[4]**150**	175	[4]**150**	175	175	175	80	90	90
		60 kW	[4]**150**	175	175	175	[4]**175**	200	90	90	90
		90 kW	[4]**225**	250	[4]**225**	250	[4]**250**	[4]**300**	125	125	150
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat	**15 kW**	95	95	104	104	112	112	45	49	53
		30 kW	100	112	109	121	117	129	55	59	63
		45 kW	139	157	148	166	156	174	78	82	86
		60 kW	146	166	156	175	164	183	82	86	90
		90 kW	209	238	218	247	227	256	118	123	126
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat and (2) 0.33 HP Power Exhaust	**15 kW**	110	110	125	125	125	125	50	60	60
		30 kW	[4]**110**	125	[4]**125**	150	[4]**125**	150	60	70	70
		45 kW	[4]**150**	175	175	175	[4]**175**	200	90	90	90
		60 kW	175	175	[4]**175**	200	[4]**175**	200	90	90	100
		90 kW	[4]**225**	250	[4]**225**	[4]**300**	[4]**250**	[4]**300**	125	150	150
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat and (2) 0.33 HP Power Exhaust	**15 kW**	99	99	109	109	117	117	48	52	56
		30 kW	106	118	115	127	123	135	58	63	66
		45 kW	145	163	154	172	162	180	81	85	89
		60 kW	152	172	162	181	170	189	85	90	93
		90 kW	215	244	224	253	233	262	122	126	130

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

[1] Extremes of operating range are plus and minus 10% of line voltage.

[2] HACR type breaker or fuse.

[3] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

[4] Factory installed circuit breaker not available.

ELECTRICAL/ELECTRIC HEAT DATA — 25 TON

	Model No.	LCM300U4					
[1] Voltage - 60Hz		208/230V-3ph			460V-3ph		
Compressor 1	Rated Load Amps	16.8			8.9		
	Locked Rotor Amps	21			11		
Compressor 2	Rated Load Amps	19.6			8.2		
	Locked Rotor Amps	136			66.1		
Compressor 3	Rated Load Amps	22.4			10.6		
	Locked Rotor Amps	149			75		
Compressor 4	Rated Load Amps	22.4			10.6		
	Locked Rotor Amps	149			75		
Outdoor Fan Motors (6)	Full Load Amps (total)	2.8 (16.8)			1.4 (8.4)		
Power Exhaust (2) 0.33 HP	Full Load Amps (total)	2.4 (4.8)			1.3 (2.6)		
Service Outlet 115V GFI (amps)		15			15		
Indoor Blower Motor	Horsepower	5	7.5	10	5	7.5	10
	Full Load Amps	16.7	24.2	30.8	7.6	11	14
[2] Maximum Overcurrent Protection (MOCP)	Unit Only	125	150	150	60	70	70
	With (2) 0.33 HP Power Exhaust	150	150	150	70	70	80
[3] Minimum Circuit Ampacity (MCA)	Unit Only	121	129	137	57	61	65
	With (2) 0.33 HP Power Exhaust	126	134	142	60	64	67

ELECTRIC HEAT DATA

	Electric Heat Voltage		208V	240V	208V	240V	208V	240V	480V	480V	480V
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat	**15 kW**	125	125	150	150	150	150	60	70	70
		30 kW	125	125	150	150	150	150	80	90	90
		45 kW	[4] **150**	175	[4] **150**	175	175	175	90	90	90
		60 kW	[4] **150**	175	175	175	[4] **175**	200	125	125	150
		90 kW	[4] **225**	250	[4] **225**	250	[4] **250**	[4] **300**	175	175	175
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat	**15 kW**	121	121	129	129	137	137	57	61	65
		30 kW	121	121	129	129	137	137	78	82	86
		45 kW	139	157	148	166	156	174	82	86	90
		60 kW	146	166	156	175	164	183	118	123	126
		90 kW	209	238	218	247	227	256	154	159	162
[2] Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat and (2) 0.33 HP Power Exhaust	**15 kW**	150	150	150	150	150	150	70	70	80
		30 kW	150	150	150	150	150	150	90	90	90
		45 kW	[4] **150**	175	175	175	[4] **175**	200	90	90	100
		60 kW	175	175	[4] **175**	200	[4] **175**	200	125	150	150
		90 kW	[4] **225**	250	[4] **225**	[4] **300**	[4] **250**	[4] **300**	175	175	175
[3] Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat and (2) 0.33 HP Power Exhaust	**15 kW**	126	126	134	134	142	142	60	64	67
		30 kW	126	126	134	134	142	142	81	85	89
		45 kW	145	163	154	172	162	180	85	90	93
		60 kW	152	172	162	181	170	189	122	126	130
		90 kW	215	244	224	253	233	262	158	162	166

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

[1] Extremes of operating range are plus and minus 10% of line voltage.

[2] HACR type breaker or fuse.

[3] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

[4] Factory installed circuit breaker not available.

ELECTRICAL ACCESSORIES - DISCONNECTS

13 TON | LCM156U4

Motor Horsepower	2		3		5		2	3	5
Electric Heat Voltage	208V	240V	208V	240V	208V	240V	480V	480V	480V
Unit Only	54W85	54W85	54W85	54W85	54W85	54W85	54W85	54W85	54W85
+ Power Exhaust	54W85	54W85	54W85	54W85	54W85	54W85	54W85	54W85	54W85
+ Electric Heat 15 kW	54W85	54W85	54W85	54W85	54W85	54W85	54W85	54W85	54W85
+ Electric Heat 30 kW	54W86	54W86	54W86	54W86	54W86	54W86	54W85	54W85	54W85
+ Electric Heat 45 kW	54W87	54W86	54W87	54W86	54W87	54W86	54W85	54W85	54W85
+ Electric Heat 60 kW	54W87	54W87	54W87	54W87	54W87	54W87	54W86	54W86	54W86
+ Power Exhaust + Elec. Heat 15 kW	54W85	54W85	54W85	54W85	54W85	54W85	54W85	54W85	54W85
+ Power Exhaust + Elec. Heat 30 kW	54W86	54W86	54W86	54W86	54W86	54W86	54W85	54W85	54W85
+ Power Exhaust + Elec. Heat 45 kW	54W87	54W86	54W87	54W86	54W87	54W86	54W85	54W85	54W85
+ Power Exhaust + Elec. Heat 60 kW	54W87	54W87	54W87	54W87	54W87	54W87	54W86	54W86	54W86

15 TON | LCM180U4

Motor Horsepower	3		5		7.5		3	5	7.5
Electric Heat Voltage	208V	240V	208V	240V	208V	240V	480V	480V	480V
Unit Only	54W85	54W85	54W85	54W85	54W86	54W86	54W85	54W85	54W85
+ Power Exhaust	54W85	54W85	54W85	54W85	54W86	54W86	54W85	54W85	54W85
+ Electric Heat 15 kW	54W85	54W85	54W85	54W85	54W85	54W85	54W85	54W85	54W85
+ Electric Heat 30 kW	54W86	54W86	54W86	54W86	54W86	54W86	54W85	54W85	54W85
+ Electric Heat 45 kW	54W87	54W86	54W87	54W86	54W87	54W87	54W85	54W85	54W85
+ Electric Heat 60 kW	54W87	54W87	54W87	54W87	54W87	54W87	54W86	54W86	54W86
+ Power Exhaust + Elec. Heat 15 kW	54W85	54W85	54W85	54W85	54W86	54W85	54W85	54W85	54W85
+ Power Exhaust + Elec. Heat 30 kW	54W86	54W86	54W86	54W86	54W86	54W86	54W85	54W85	54W85
+ Power Exhaust + Elec. Heat 45 kW	54W87	54W86	54W87	54W86	54W87	54W87	54W85	54W85	54W85
+ Power Exhaust + Elec. Heat 60 kW	54W87	54W87	54W87	54W87	54W87	54W87	54W86	54W86	54W86

17.5 TON | LCM210U4

Motor Horsepower	3		5		7.5		3	5	7.5
Electric Heat Voltage	208V	240V	208V	240V	208V	240V	480V	480V	480V
Unit Only	54W85	54W85	54W86	54W86	54W86	54W86	54W85	54W85	54W85
+ Power Exhaust	54W86	54W86	54W86	54W86	54W86	54W86	54W85	54W85	54W85
+ Electric Heat 15 kW	54W85	54W85	54W85	54W85	54W85	54W85	54W85	54W85	54W85
+ Electric Heat 30 kW	54W86	54W86	54W86	54W86	54W86	54W86	54W85	54W85	54W85
+ Electric Heat 45 kW	54W87	54W86	54W87	54W86	54W87	54W87	54W85	54W85	54W85
+ Electric Heat 60 kW	54W87	54W87	54W87	54W87	54W87	54W87	54W86	54W86	54W86
+ Electric Heat 90 kW	[1] NA	[1] NA	[1] NA	[1] NA	[1] NA	[1] NA	54W86	54W86	54W86
+ Power Exhaust + Elec. Heat 15 kW	54W85	54W85	54W85	54W85	54W86	54W85	54W85	54W85	54W85
+ Power Exhaust + Elec. Heat 30 kW	54W86	54W86	54W86	54W86	54W86	54W86	54W85	54W85	54W85
+ Power Exhaust + Elec. Heat 45 kW	54W87	54W86	54W87	54W86	54W87	54W87	54W85	54W85	54W85
+ Power Exhaust + Elec. Heat 60 kW	54W87	54W87	54W87	54W87	54W87	54W87	54W86	54W86	54W86
+ Power Exhaust + Elec. Heat 90 kW	[1] NA	[1] NA	[1] NA	[1] NA	[1] NA	[1] NA	54W86	54W86	54W86

[1] Disconnect must be field furnished.

ELECTRICAL ACCESSORIES - DISCONNECTS

20 TON | LCM240U4

Motor Horsepower	5		7.5		10		5	7.5	10
Electric Heat Voltage	208V	240V	208V	240V	208V	240V	480V	480V	480V
Unit Only	54W86	54W86	54W86	54W86	54W86	54W86	54W85	54W85	54W85
+ Power Exhaust	54W86	54W86	54W86	54W86	54W86	54W86	54W85	54W85	54W85
+ Electric Heat 15 kW	54W85	54W85	54W85	54W85	54W86	54W85	54W85	54W85	54W85
+ Electric Heat 30 kW	54W86	54W86	54W86	54W86	54W86	54W86	54W85	54W85	54W85
+ Electric Heat 45 kW	54W87	54W86	54W87	54W87	54W87	54W87	54W85	54W85	54W85
+ Electric Heat 60 kW	54W87	54W87	54W87	54W87	54W87	54W87	54W86	54W86	54W86
+ Electric Heat 90 kW	[1] NA	[1] NA	[1] NA	[1] NA	[1] NA	[1] NA	54W86	54W86	54W86
+ Power Exhaust + Elec. Heat 15 kW	54W85	54W85	54W86	54W85	54W86	54W86	54W85	54W85	54W85
+ Power Exhaust + Elec. Heat 30 kW	54W86	54W86	54W86	54W86	54W86	54W86	54W85	54W85	54W85
+ Power Exhaust + Elec. Heat 45 kW	54W87	54W86	54W87	54W87	54W87	54W87	54W85	54W85	54W86
+ Power Exhaust + Elec. Heat 60 kW	54W87	54W87	54W87	54W87	54W87	54W87	54W86	54W86	54W86
+ Power Exhaust + Elec. Heat 90 kW	[1] NA	[1] NA	[1] NA	[1] NA	[1] NA	[1] NA	54W86	54W86	54W86

25 TON | LCM300U4

Motor Horsepower	5		7.5		10		5	7.5	10
Electric Heat Voltage	208V	240V	208V	240V	208V	240V	480V	480V	480V
Unit Only	54W86	54W86	54W86	54W86	54W86	54W86	54W85	54W85	54W85
+ Power Exhaust	54W86	54W86	54W86	54W86	54W87	54W87	54W85	54W85	54W85
+ Electric Heat 15 kW	54W85	54W85	54W85	54W85	54W86	54W85	54W85	54W85	54W85
+ Electric Heat 30 kW	54W86	54W86	54W86	54W86	54W86	54W86	54W85	54W85	54W85
+ Electric Heat 45 kW	54W87	54W86	54W87	54W87	54W87	54W87	54W85	54W85	54W85
+ Electric Heat 60 kW	54W87	54W87	54W87	54W87	54W87	54W87	54W86	54W86	54W86
+ Electric Heat 90 kW	[1] NA	[1] NA	[1] NA	[1] NA	[1] NA	[1] NA	54W86	54W86	54W86
+ Power Exhaust + Elec. Heat 15 kW	54W85	54W85	54W86	54W85	54W86	54W86	54W85	54W85	54W85
+ Power Exhaust + Elec. Heat 30 kW	54W86	54W86	54W86	54W86	54W86	54W86	54W85	54W85	54W85
+ Power Exhaust + Elec. Heat 45 kW	54W87	54W86	54W87	54W87	54W87	54W87	54W85	54W85	54W86
+ Power Exhaust + Elec. Heat 60 kW	54W87	54W87	54W87	54W87	54W87	54W87	54W86	54W86	54W86
+ Power Exhaust + Elec. Heat 90 kW	[1] NA	[1] NA	[1] NA	[1] NA	[1] NA	[1] NA	54W86	54W86	54W86

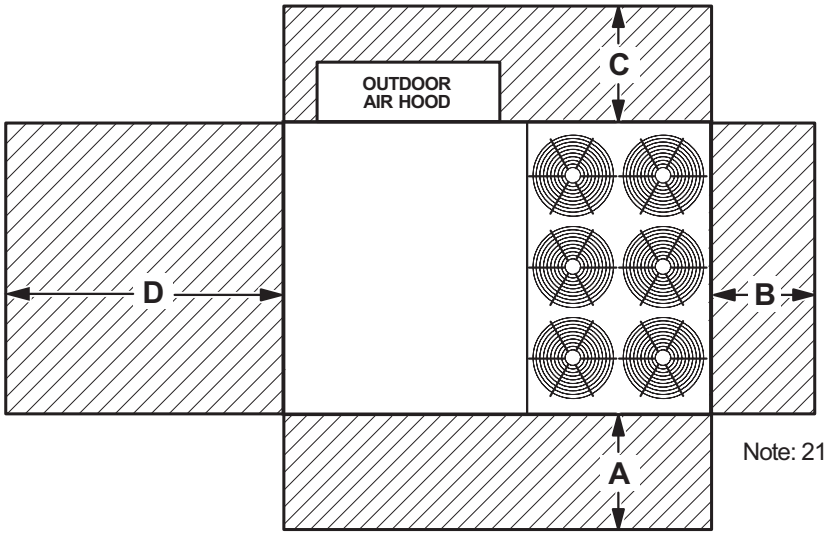
[1] Disconnect must be field furnished.

ELECTRIC HEAT CAPACITIES

Volts Input	15 kW			30 kW			45 kW			60 kW			90 kW		
	kW Input	Btuh Output	No. of Stages	kW Input	Btuh Output	No. of Stages	kW Input	Btuh Output	No. of Stages	kW Input	Btuh Output	No. of Stages	kW Input	Btuh Output	No. of Stages
208	11.3	38,600	1	22.5	76,800	1	33.8	115,300	2	45.0	153,600	2	67.6	230,700	2
220	12.6	43,000	1	25.2	86,000	1	37.8	129,000	2	50.4	172,000	2	75.6	258,000	2
230	13.8	47,100	1	27.5	93,900	1	41.3	141,000	2	55.1	188,000	2	82.7	282,200	2
240	15.0	51,200	1	30.0	102,400	1	45.0	153,600	2	60.0	204,800	2	90.0	307,100	2
440	12.6	43,000	1	25.2	86,000	1	37.8	129,000	2	50.4	172,000	2	75.6	258,000	2
460	13.8	47,100	1	27.5	93,900	1	41.3	141,000	2	55.1	188,000	2	82.7	282,200	2
480	15.0	51,200	1	30.0	102,400	1	45.0	153,600	2	60.0	204,800	2	90.0	307,100	2

UNIT CLEARANCES

Unit With Economizer



Note: 210-240-300 sizes shown

[1] Unit Clearance	A		B		C		D		Top Clearance
	in.	mm	in.	mm	in.	mm	in.	mm	
Service Clearance	60	1524	36	914	36	934	66	1676	Unobstructed
Clearance to Combustibles	36	914	1	25	1	25	1	25	
Minimum Operation Clearance	45	1143	36	914	36	914	41	1041	

NOTE - Entire perimeter of unit base requires support when elevated above the mounting surface.

[1] **Service Clearance** - Required for removal of serviceable parts.
Clearance to Combustibles - Required clearance to combustible material.
Minimum Operation Clearance - Required clearance for proper unit operation.

OUTDOOR SOUND DATA

Unit Model Number	Octave Band Sound Power Levels dBA, re 10^{-12} Watts - Center Frequency - Hz							[1] Sound Rating Number (dBA)
	125	250	500	1000	2000	4000	8000	
156, 180	71	76	80	78	74	70	63	86
210, 240, 300	73	81	86	84	78	73	67	90

Note - The octave sound power data does not include tonal corrections.

[1] Sound Rating Number according to AHRI Standard 370-2001 (includes pure tone penalty).
Sound Rating Number is the overall A-Weighted Sound Power Level (LWA), dBA (100 Hz to 10,000 Hz).

WEIGHT DATA — UNIT

Model Number	Net		Shipping	
	lbs.	kg	lbs.	kg
156 Base Unit	2090	948	2290	1039
156 Max. Unit	2390	1084	2590	1175
180 Base Unit	2100	953	2300	1043
180 Max. Unit	2400	1089	2600	1179
210 Base Unit	2220	1007	2420	1098
210 Max. Unit	2520	1143	2720	1234
240 Base Unit	2370	1075	2570	1166
240 Max. Unit	2670	1211	2870	1302
300 Base Unit	2420	1098	2620	1188
300 Max. Unit	2720	1234	2920	1324

NOTE - Max. Unit is the unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories EXTERNAL to unit.

WEIGHT DATA — OPTIONS / ACCESSORIES

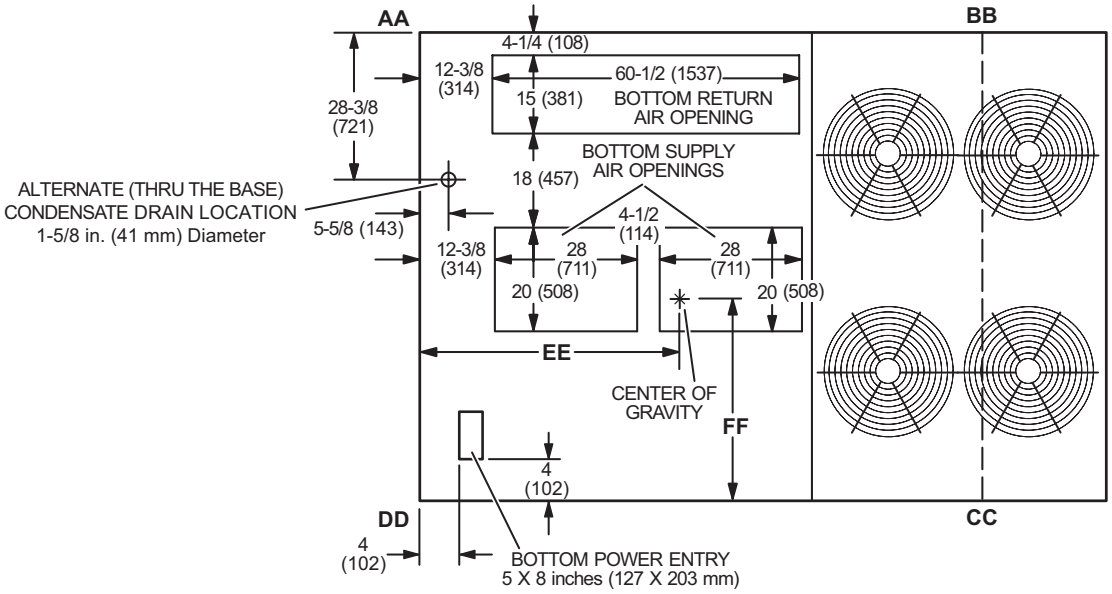
Description		Shipping Weight	
		lbs.	kg
CEILING DIFFUSERS			
Step-Down	RTD11-185S	168	76
	RTD11-275S	238	108
Flush	FD11-185S	168	76
	FD11-275S	238	108
Transitions	C1DIFF33C-1	80	36
	C1DIFF34C-1	75	34
ECONOMIZER / OUTDOOR AIR / EXHAUST			
Economizer			
Economizer Dampers		102	46
Barometric Relief Dampers (downflow)		30	14
Barometric Relief Dampers (horizontal)		20	9
Outdoor Air Damper Hood (downflow)		65	29
Outdoor Air Dampers			
Outdoor Air Damper Section (downflow) - Automatic (including Hood)		18	39
Outdoor Air Damper Section (downflow) - Manual (including Hood)		10	22
Power Exhaust		62	28
ELECTRIC HEAT			
15 kW		59	27
30 kW		59	27
45 kW		76	34
60 kW		76	34
90 kW		84	38
HUMIDITROL™+ HOT GAS REHEAT SYSTEM			
Humiditrol™+ Dehumidification Option (Net Weight)		50	23
ROOF CURBS			
Hybrid Roof Curbs, Downflow			
8 in. height		75	34
14 in. height		105	48
18 in. height		125	57
24 in. height		155	70
Adjustable Pitch Curb, Downflow			
14 in. height		262	119
Horizontal, Standard			
26 in. height		470	213
37 in. height		505	229
30 in. height		575	261
41 in. height		610	277
PACKAGING			
LTL Packaging (less than truck load)		310	141

CORNER WEIGHTS | **CENTER OF GRAVITY**

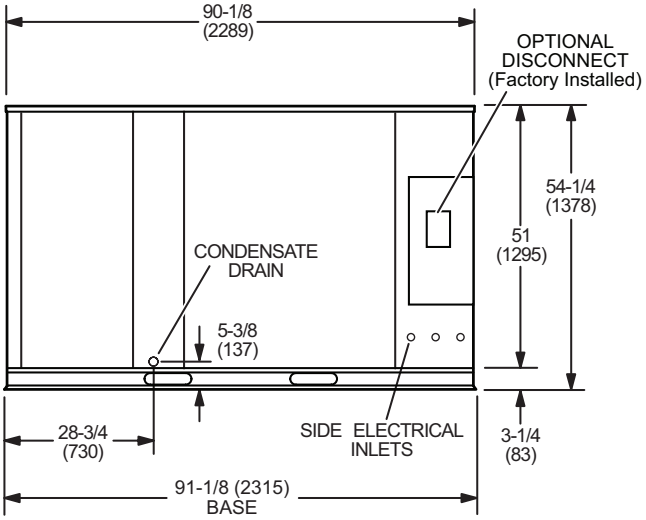
Model No.	AA		BB		CC		DD		EE		FF	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	in.	mm	in.	mm
LCM156 Base Unit	446	202	463	210	602	273	580	263	54-7/8	1394	39-5/8	1006
LCM156 Max. Unit	558	253	550	250	636	289	645	293	53-1/2	1359	42-1/4	1073
LCM180 Base Unit	448	203	463	210	605	274	585	265	54-3/4	1391	39-1/2	1003
LCM180 Max. Unit	560	254	550	249	639	290	651	295	53-3/8	1356	42-1/8	1070

Base Unit - The unit with NO INTERNAL OPTIONS.

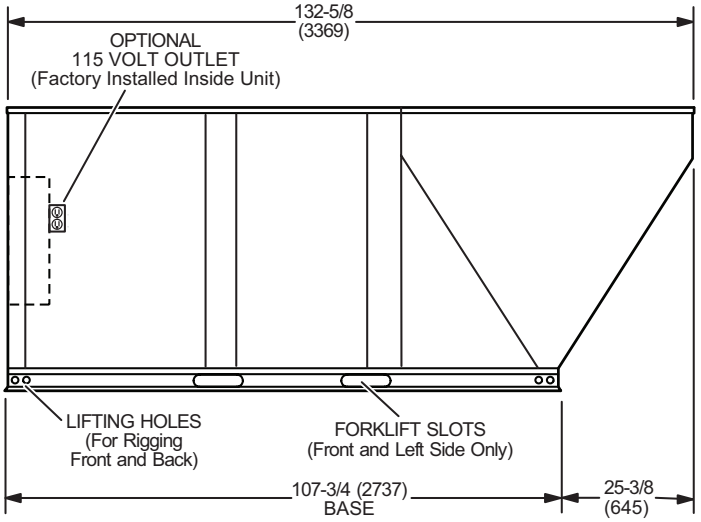
Max. Unit - The unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories external to unit.



TOP VIEW



END VIEW



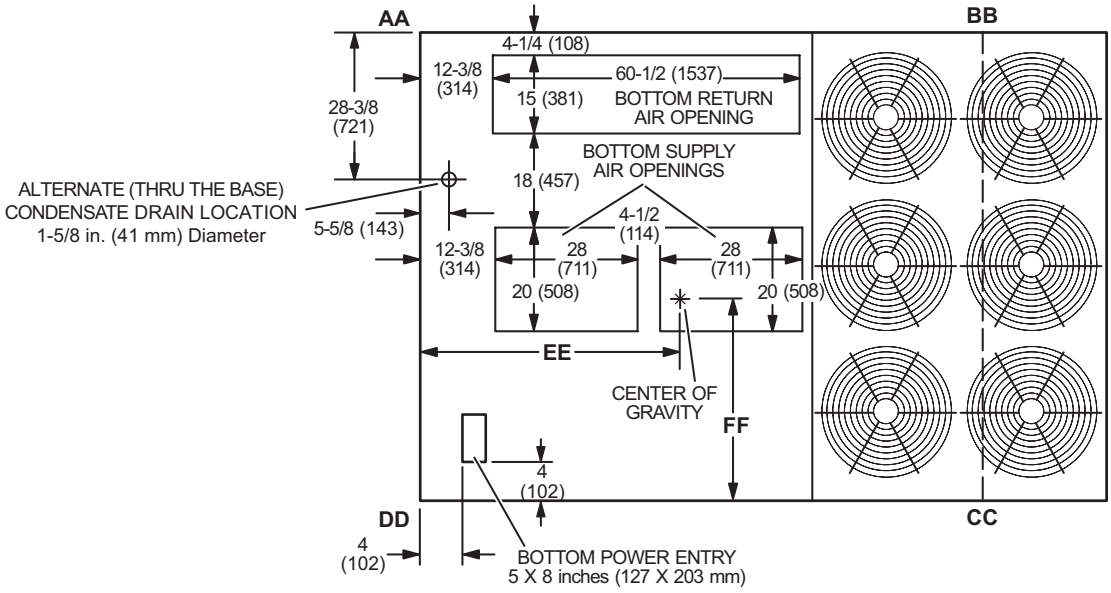
SIDE VIEW

CORNER WEIGHTS | **CENTER OF GRAVITY**

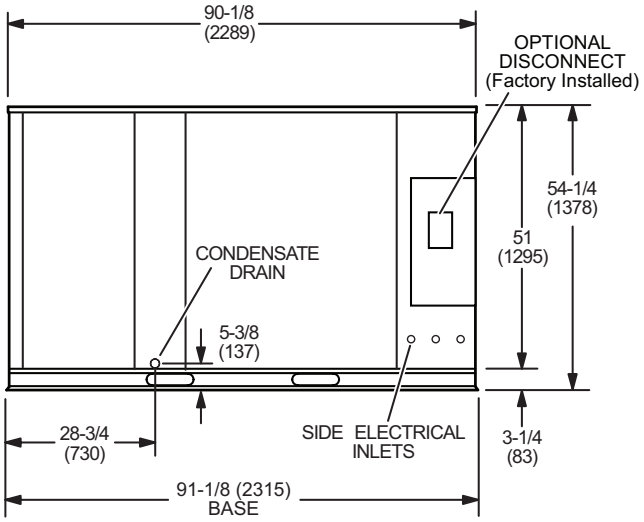
Model No.	AA		BB		CC		DD		EE		FF	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	in.	mm	in.	mm
LCM210 Base Unit	442	201	483	219	676	306	619	281	56-1/4	1429	38	965
LCM210 Max. Unit	549	249	575	261	714	324	682	309	55-1/8	1400	40-5/8	1032
LCM240 Base Unit	465	211	527	239	732	332	646	293	57-1/4	1454	38-1/8	968
LCM240 Max. Unit	572	259	622	282	769	349	707	321	56-1/8	1426	40-3/4	1035
LCM300 Base Unit	469	213	530	240	753	342	668	303	57-1/8	1451	37-5/8	956
LCM300 Max. Unit	577	262	624	283	789	358	729	331	56	1422	40-1/4	1022

Base Unit - The unit with NO INTERNAL OPTIONS.

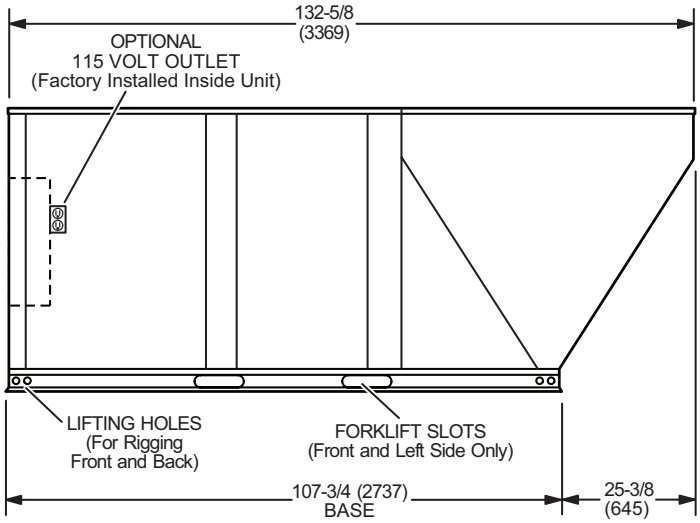
Max. Unit - The unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories external to unit.



TOP VIEW

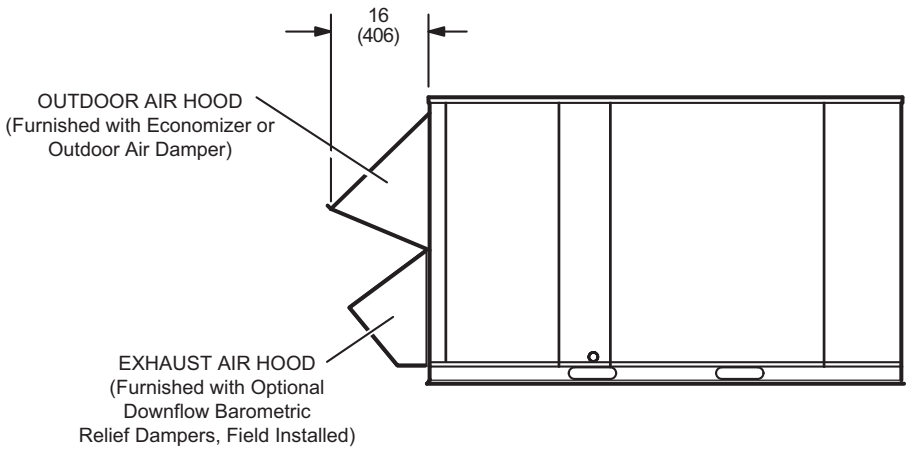


END VIEW



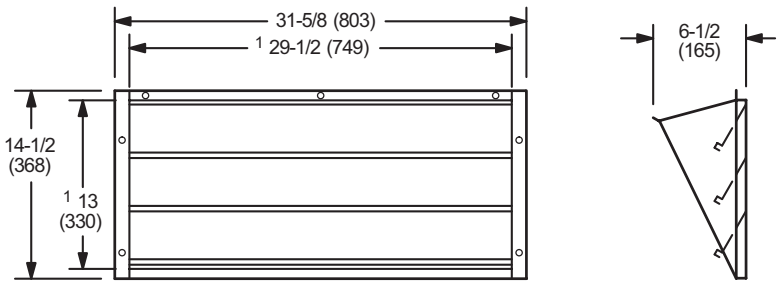
SIDE VIEW

OUTDOOR AIR HOOD DETAIL



OPTIONAL HORIZONTAL BAROMETRIC RELIEF DAMPERS WITH HOOD

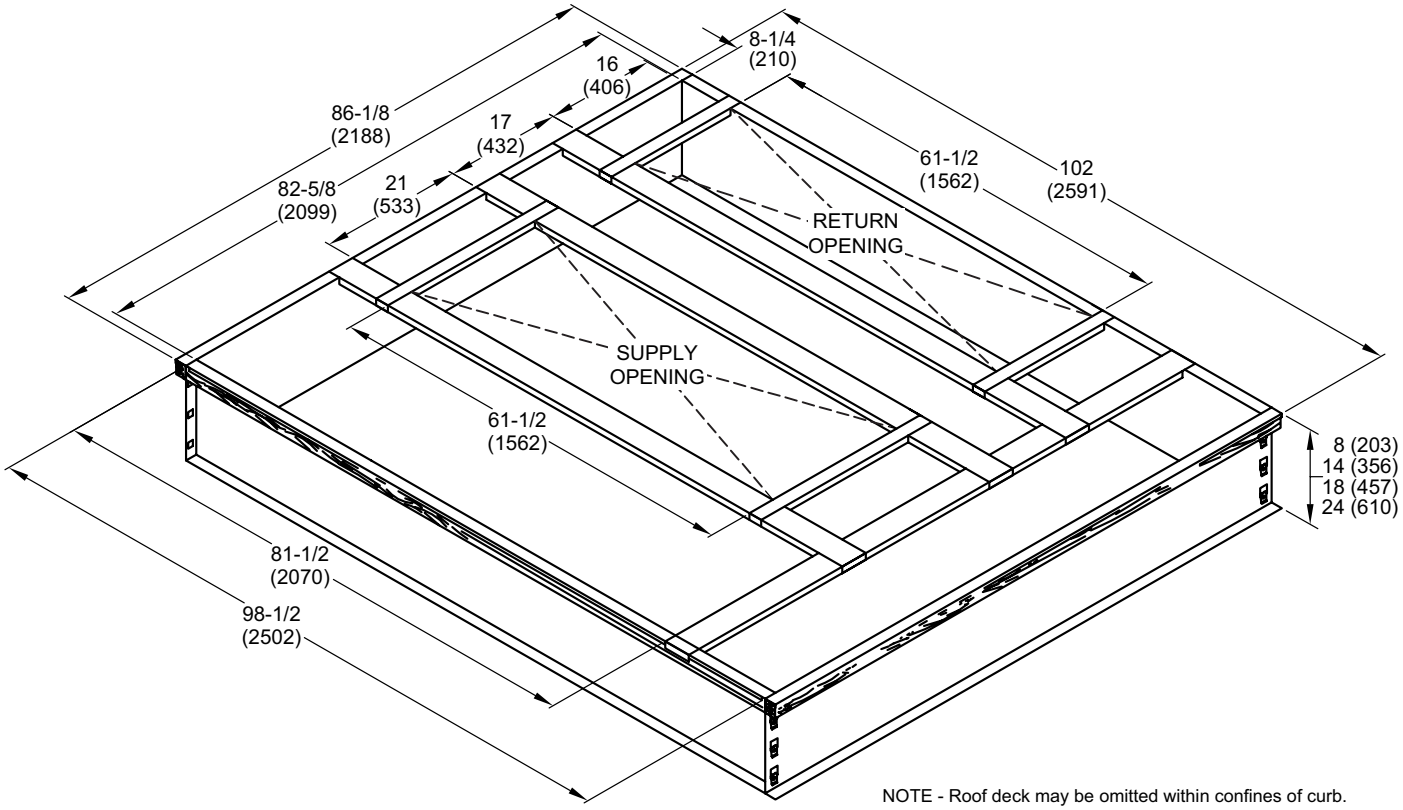
(Field installed in horizontal return air duct adjacent to unit)



FRONT VIEW **SIDE VIEW**

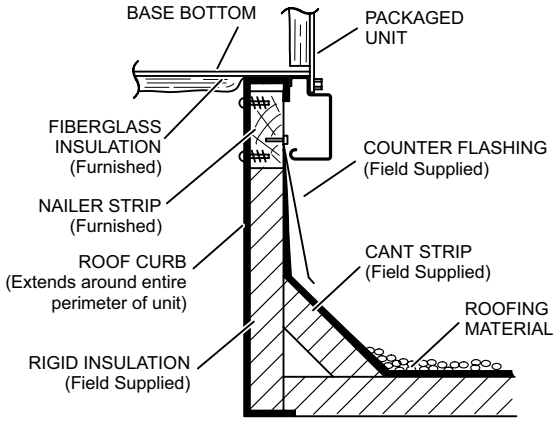
NOTE - Two furnished per order no.
[1] NOTE - Opening size required in return air duct.

HYBRID ROOF CURBS - DOUBLE DUCT OPENING

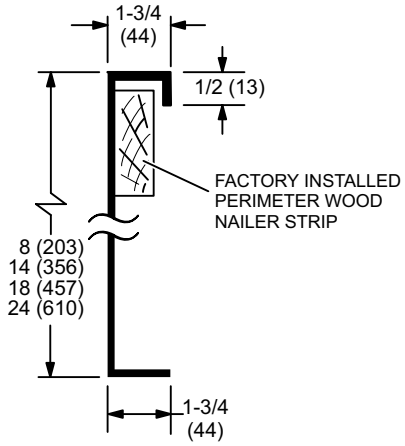


NOTE - Roof deck may be omitted within confines of curb.

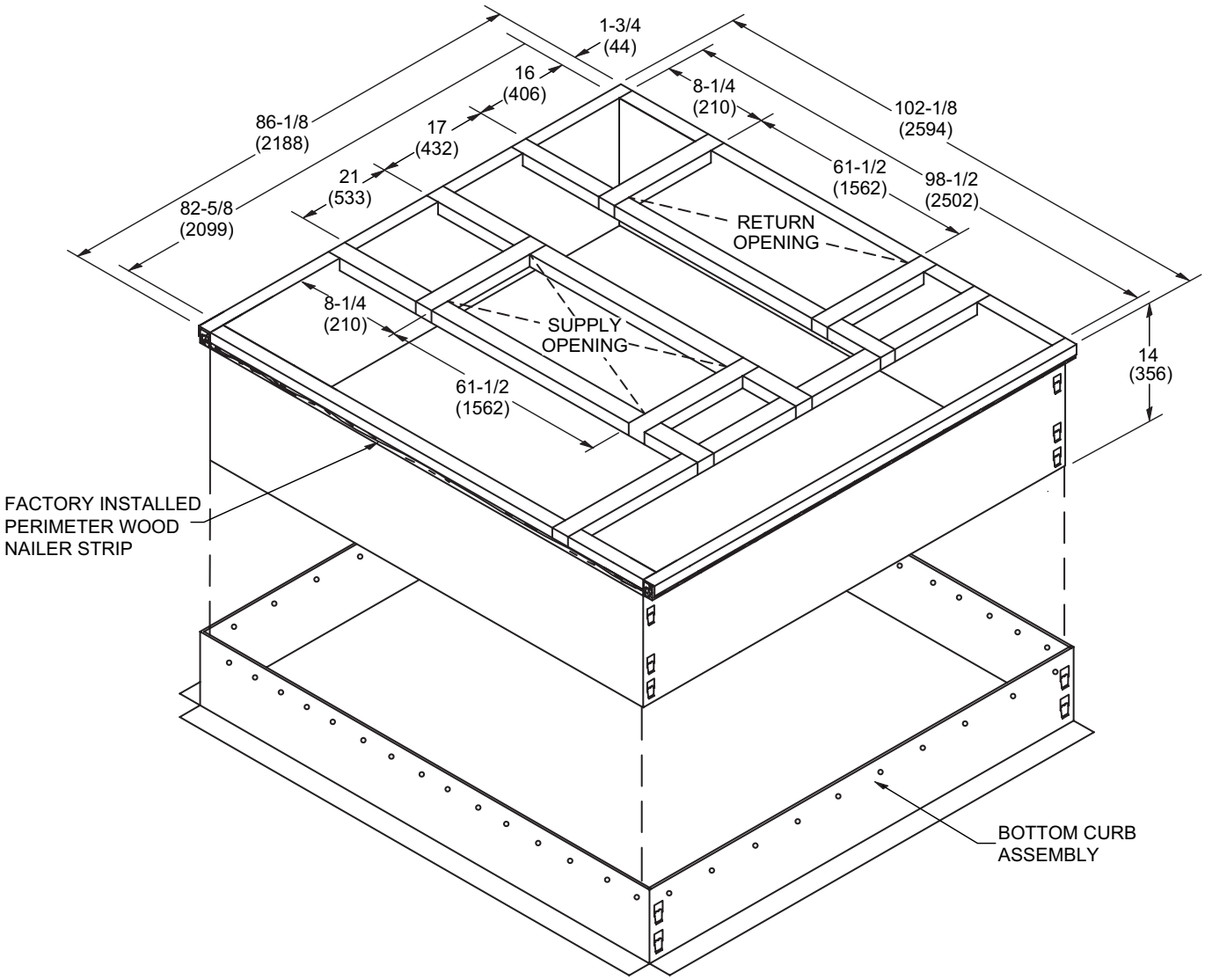
TYPICAL FLASHING DETAIL FOR ROOF CURB



DETAIL ROOF CURB

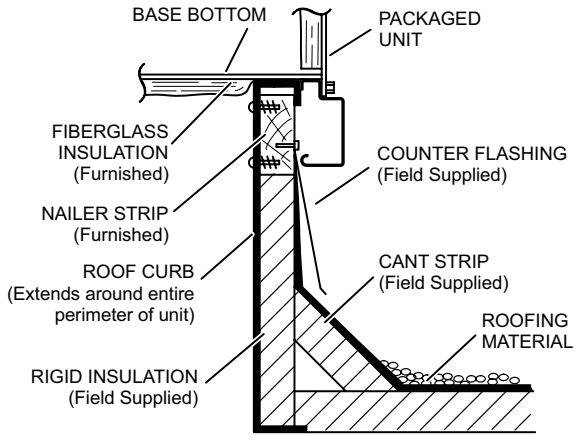


ADJUSTABLE PITCH CURB - DOUBLE DUCT OPENING

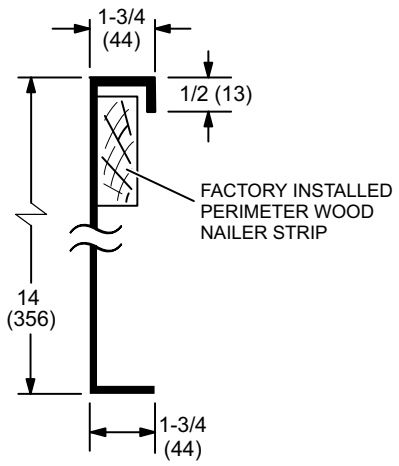


NOTE - Maximum slope pitch is 3/4 in. per 1 foot (19 mm per 305 mm) in any one direction.

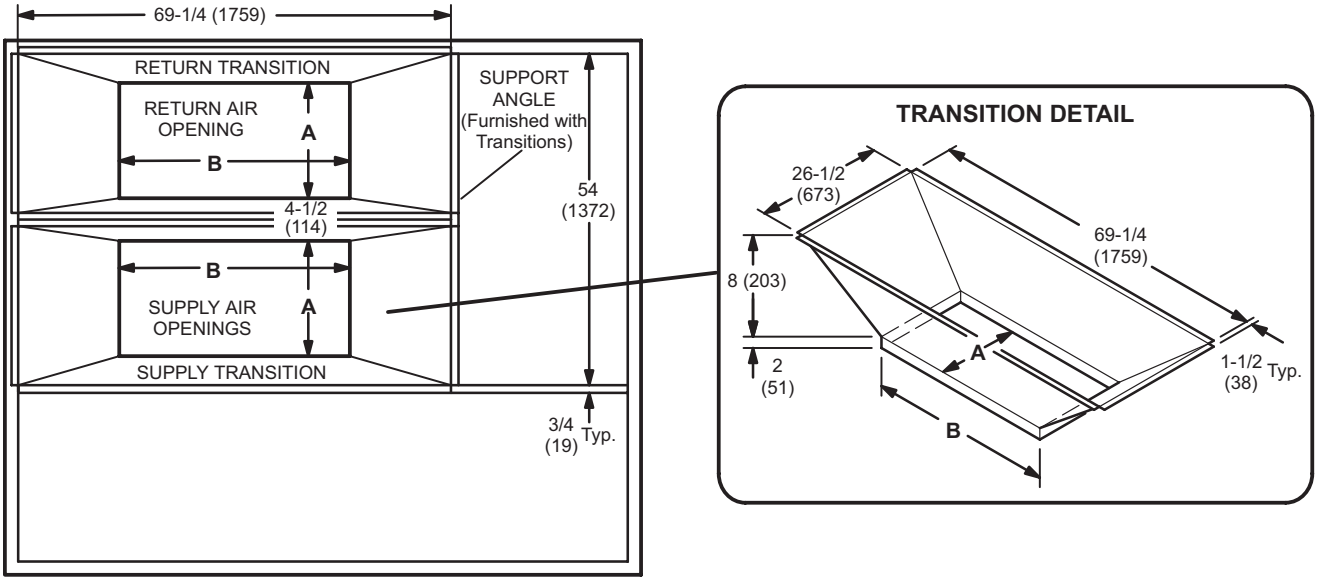
TYPICAL FLASHING DETAIL FOR ROOF CURB



DETAIL ROOF CURB



ROOF CURBS WITH SUPPLY & RETURN AIR TRANSITIONS FOR CEILING DIFFUSERS

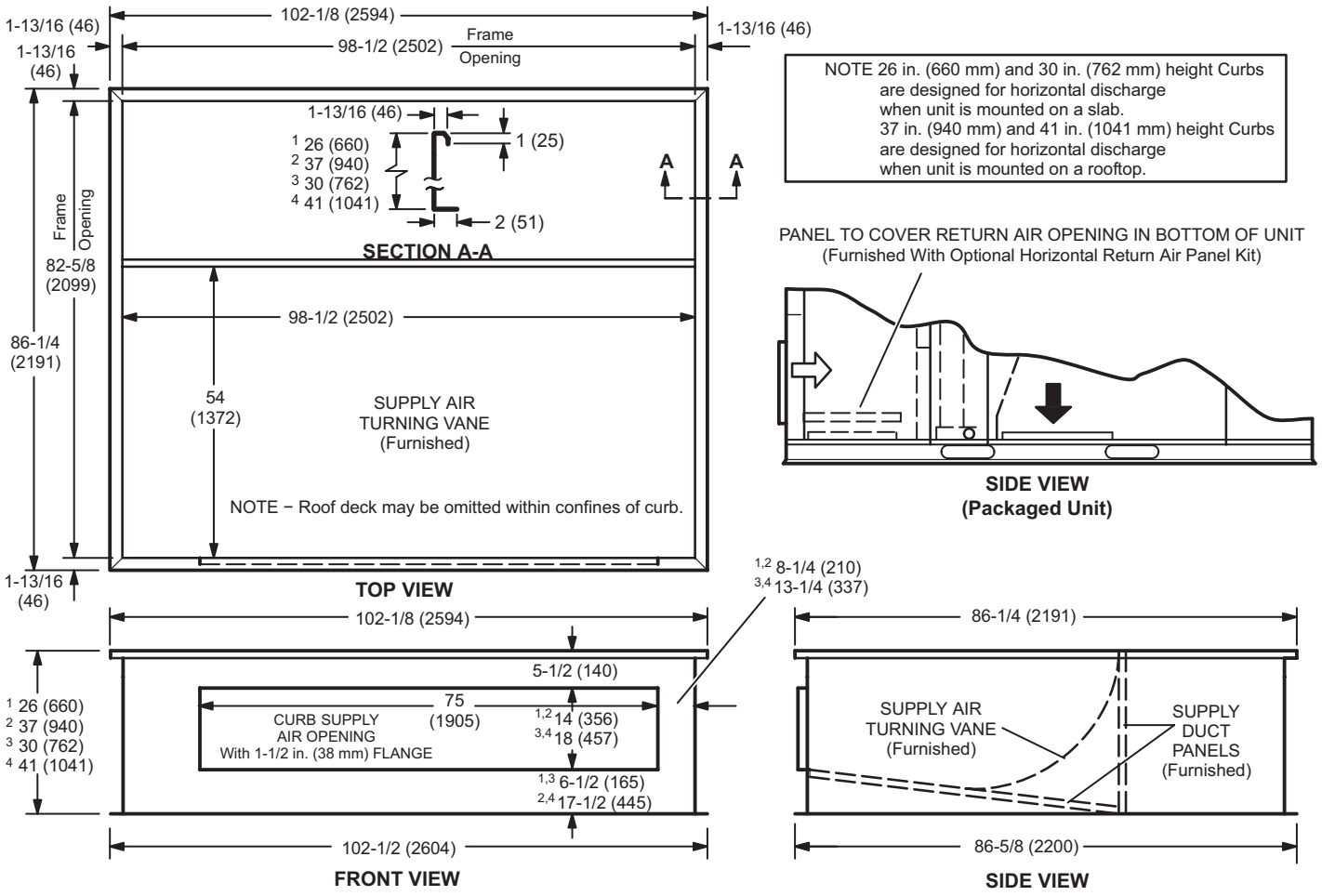


TOP VIEW

TRANSITION OPENING SIZES

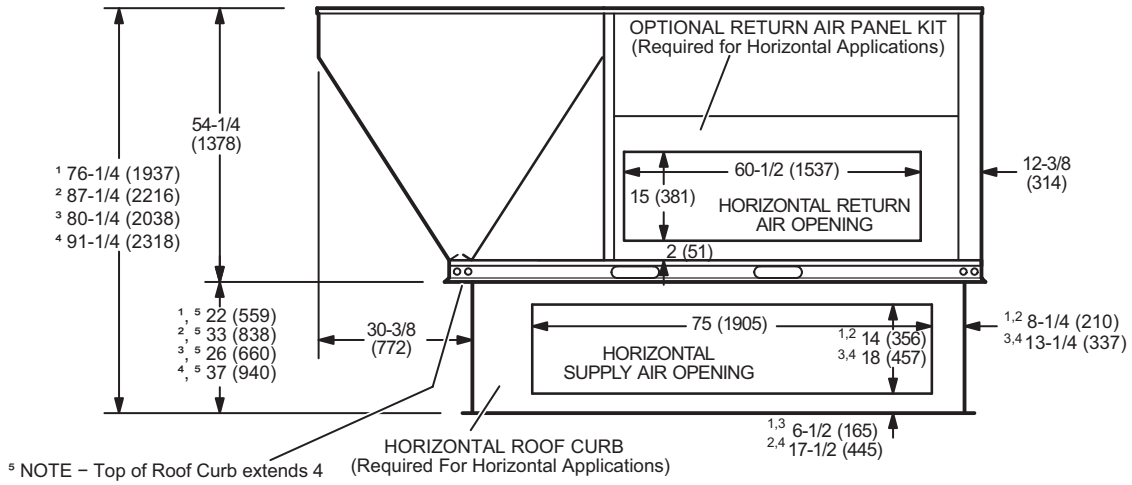
Model Number	A		B	
	inch	mm	inch	mm
C1DIFF33C-1	18	457	36	914
C1DIFF34C-1	24	610	48	1219

HORIZONTAL ROOF CURBS − Requires Optional Horizontal Return Air Panel Kit



[1] Slab Applications [2] Rooftop Applications [3] Slab Applications (used with 300 only) [4] Rooftop Applications (used with 300 only)

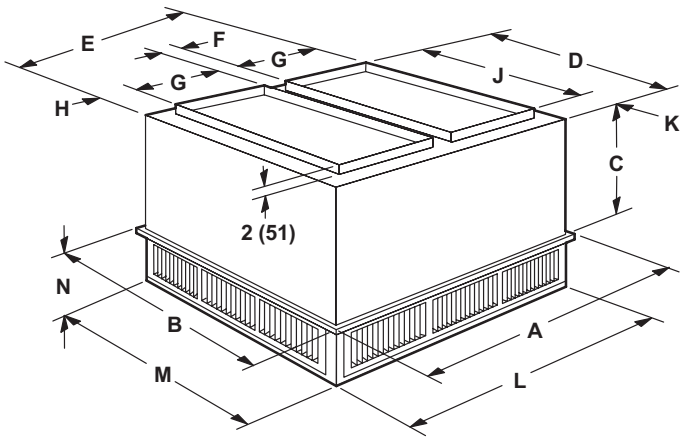
HORIZONTAL SUPPLY AND RETURN AIR OPENINGS WITH HORIZONTAL ROOF CURB



[1] Slab Applications
[2] Rooftop Applications
[3] Slab Applications (used with 300 Models Only)
[4] Rooftop Applications (used with 300 Models Only)

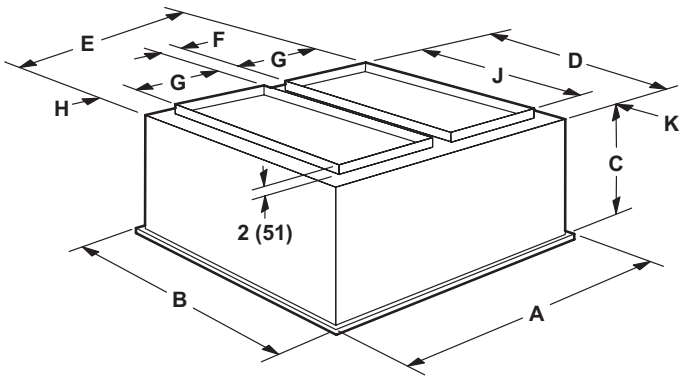
COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

STEP-DOWN CEILING DIFFUSER



Model Number		RTD11-185S	RTD11-275S
A	in.	47-5/8	59-5/8
	mm	1210	1514
B	in.	47-5/8	59-5/8
	mm	1210	1514
C	in.	24-5/8	30-5/8
	mm	625	778
D	in.	45-1/2	57-1/2
	mm	1156	1461
E	in.	45-1/2	57-1/2
	mm	1156	1461
F	in.	4-1/2	4-1/2
	mm	114	114
G	in.	18	24
	mm	457	610
H	in.	2-1/2	2-1/2
	mm	64	64
J	in.	36	48
	mm	914	1219
K	in.	4-3/4	4-3/4
	mm	121	121
L	in.	45-1/2	57-1/2
	mm	1156	1461
M	in.	45-1/2	57-1/2
	mm	1156	1461
N	in.	10-1/8	11-1/8
	mm	257	283
Duct Size	in.	18 x 36	24 x 48
	mm	457 x 914	610 x 1219

FLUSH CEILING DIFFUSER



Model Number		FD11-185S	FD11-275S
A	in.	47-5/8	59-5/8
	mm	1210	1514
B	in.	47-5/8	59-5/8
	mm	1210	1514
C	in.	29-1/4	35-1/4
	mm	743	895
D	in.	45	57
	mm	1143	1148
E	in.	45	57
	mm	1143	1448
F	in.	4-1/2	4-1/2
	mm	114	114
G	in.	18	24
	mm	457	610
H	in.	2-1/4	2-1/4
	mm	57	57
J	in.	36	48
	mm	914	1219
K	in.	4-1/2	4-1/2
	mm	114	114
Duct Size	in.	18 x 36	24 x 48
	mm	457 x 914	610 x 1219

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